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Telegraph

Chapters of Telegraph History,

FURNISHED BY

THE AMERICAN TELEGRAPH MAGAZINE

60563

AND OTHER PUBLICATIONS—

SOME OF WHICH LATTER WERE PRINTED FOR JUDICIAL PURPOSES DURING THE TELEGRAPH CONTROVERSIES OF THE LAST FIFTEEN YEARS—CONCERNING

THE ORIGIN AND PROGRESS OF THE TELEGRAPH LINES WHICH FIRST ELECTRICALLY CONNECTED THE UNITED STATES.

NOTICE.

The demand for information concerning the Origin and Progress of the Telegraph System, and the inquiries frequently made for copies of the "American Telegraph Magazine" and other works respecting that important enterprize, have induced the undersigned (who was interested in the publication) to arrange for reprinting a portion of the numbers in order to complete some setts of that Magazine, and also to arrange in other volumes copies of documents farther illustrating the History of Telegraphic Enterprize in America—for supplying some of the Historical and other Libraries in the Old World and the New.

The American Telegraph Magazine was a Pioneer in its speciality—the first periodical publication devoted to Telegraphic subjects in the World. It was edited by Donald Mann, and published in New-York in 1852-3. Its value, for accuracy and impartiality, was generally acknowledged by persons concerned in Telegraphing or otherwise familiar with American Telegraph History. It is believed that in no other volume of equal extent can an equal amount of valuable information be obtained concerning the Origin and Operation of the American Telegraph System. This volume contains all the numbers published of the Telegraph Magazine—the publication running through parts of the two years.

Among the matters in this volume of the Magazine will be found statements from Professor Joseph Henry, Prof. Morse, Dr. W. F. Channing, Mr. R. W. Russell, author of a History of Telegraphing, Henry O'Rielly, Gen. R. H. Gillett, and other persons intimately connected or acquainted with the American Telegraph System.

Succeeding volumes, to the number probably of eight or ten, will embody copies of the Documents and other papers above referred to—but each volume will be complete in itself—having no connection with the others farther than as furnishing additional information upon the same subject in its varied and important aspects.

The Collection of a Hundred Volumes of Telegraphic Matters (about forty of them being printed) in the New-York Historical Society's Library, indicates the great variety and importance of topics included in American Telegraph History—characteristics fully sustained by the "Contents" indexed with each Number of the Magazine in this Volume.

New-York, *December*, 1860. HENRY BROOKS O'RIELLY.

ROCHESTER, NEW-YORK:
RE-PUBLISHED BY JOHN BROOKS O'RIELLY, No. 8 MASONIC HALL.
1861.

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AMERICAN TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.
"I'LL PUT A GIRDLE 'ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPEARE.

VOL. I.—NO. 1. NEW YORK, OCTOBER, 1852. DONALD MANN, EDITOR.

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A Memorial from HENRY O'RIELLY, and accompanying Documents,
Proposing a System of Intercourse Across the American Continent,
By Mail and Telegraph, along a Military Route, through the public domain, between the Atlantic and Pacific States,
Including the Protection of Emigrants, the Formation of Settlements, and Promotiom of
Amicable Relations with the Indians,
Through Nebraska, Deserete, New Mexico, California and Oregon;
And thus facilitating Intercourse (across the American Continent) between
Europe and China, Hawaii, Australia, the British and Russian Possessions on the Northwest Coast, and other regions of the Pacific World.
To which are added, Extracts from the Reports, Resolutions and Estimates published by the General Committee
of the "National Telegraph and Railroad Convention," at St. Louis, in 1849, expressing approbation
of the project, and commending it to the "favorable consideration of Congress."

NEW YORK:
PUBLISHED MONTHLY, BY DONALD MANN.

FROM THE STEAM-PRESS OF BAKER, GODWIN & CO., No. 1 SPRUCE STREET, NEW YORK.

AMERICAN TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—Job.
"I CAN PUT A GIRDLE 'ROUND THE EARTH IN FORTY MINUTES!"—Shakspeare.

Vol. I.—No. 1. **NEW YORK, OCTOBER, 1852.** Donald Mann, Editor.

To the Telegraphic World.

"Canst thou send lightnings, that they may go, and say unto thee, Here we are?"—Job.

"I can put a girdle 'round the earth in forty minutes."—
Shakspeare.

THE AMERICAN TELEGRAPH MAGAZINE, a monthly publication in New-York, at two dollars per annum, is established for the purpose of collecting and diffusing intelligence, for ready and permanent reference, concerning the Telegraph System in its Origin and Progress throughout the World; and especially for discussing all matters affecting the operations of the Telegraph and the Telegraphers in the United States—intimately connected as they are with the interests of the American People.

Employed constantly, in the most confidential correspondence, by all branches of American Society within range of the twenty thousand miles of Lightning Lines which already connect nearly every town and village eastward of the Rocky Mountains—the depository and messenger of secrets concerning the highest political interests, the mightiest business transactions of private enterprise, and the most sacred affections of the human heart in the relations of "courtship, marriage, and death:"—transmitting daily and hourly the current intelligence which vibrates simultaneously among our fellow-citizens through vast regions, and makes them more fully realize the essential truth that we are ONE PEOPLE in all sections of the United States (*except on the Pacific coast*, which should not much longer form an exception)—exercising, in these manifold ways, some of the mysterious influences which were formerly deemed inseparable from Almighty Power on Earth—the American Telegraph System, in behalf of which this Magazine invokes public attention, is surely unsurpassed in importance by any one of the Departments of our Federal Government.

An organization thus alike vast and novel—thus connected confidentially with the interests of every intelligent being in the land:—an organization largely influencing or wholly revolutionizing some of the old modes of commercial and newspaper business, and furnishing the Government and People with powerful means for promoting unity of defense against assaults upon our country or its institutions—an organization essential for such great purposes, *deserves*, nay *demands*, the enlightened attention of the People at large:—And, inasmuch as it is a great "power behind the throne," not officially responsible, so as to bring its affairs within reach of investigation by Governmental functionaries—inasmuch as it is thus identified with popular interests to a degree unequaled by any other enterprise in the affairs of mankind—the Telegraph System is emphatically a Popular Institution, of whose purity and efficiency the People generally must be considered the rightful conservators.

Nothing in the history of the Telegraph is more remarkable than the general fidelity with which its duties to the public have been discharged. But, as all such human institutions are unfortunately influenced by the frailties of our nature, the necessity of *constant and close scrutiny on the part of the People* must be apparent to all who reflect on the reciprocal rights and duties existing between the Lightning Lines and the Community on whose business they are sustained.

Without wearying the reader by enlarging on the many reasons which entitle the Telegraph Enterprise to Public Consideration, and which demand Public Scrutiny, alike for the welfare of the People, the Press, the Telegraphers, and the Telegraph Companies, we commence this publication with the firm resolution to investigate any and all matters falling within our province, and to publish results "without fear or favor"—throwing our columns open to any and all persons who can promote truth and justice by communicating intelligence, or by controverting any opinions which we may at any time express.

Impartiality—equal and exact Justice—is our motto; and while we will not be prevented, by any apprehension of consequences, from criticizing any thing which we may consider exceptionable, either on the part of Telegraph Companies, or the Telegraphers or Superintendents, or on the part of the Public Press in its relation to the Telegraph, not having the vanity to suppose ourselves infallible, especially in matters about which the wisest and best men among us may honestly differ in opinion, we will esteem it an act of friendship, instead of hostility, to be furnished with any reliable statements correcting whatever errors we may commit.

Some experience in the practical duties of Telegraphic life, in the various positions of builder, operator, superintendent and agent—from the commencement of the Telegraphic system down to the present time—together with the facilities we enjoy, in reference to the records of the progress of Telegraphing during the whole of that eventful period—contribute to sustain us in the task we have undertaken—a task, of which we well know the delicacy and responsibility, and to the discharge of which, we pledge our best efforts—in the certainty that, even with a moderate degree of success, the Public and the Telegraph System cannot fail to be measurably benefited by a publication devoted in all sincerity to the advancement of a system so indispensable to the welfare of society.

The Telegraph Magazine will gradually embody all valuable information, illustrative of the Origin and Progress of Electric and Chemical Science in their connections with Telegraphic Art—reproducing many articles by eminent authors, which are now accessible only through tedious and expensive research.

All the laws, patents, contracts, and other documents, bearing on the interests of the Telegraph System anywhere in the United States, and other countries, will be given fully or substantially.

The history of an undertaking so vast and important, and beset by so much litigation in addition to the ordinary difficulties of a new enterprise, abounds with matters that will be considered more and more interesting, as the progress of time developes the extraordinary qualities and value of the Telegraph system. Having materials of authentic character, commencing with the commencement, we are sure that our readers will find that we do not overestimate their value.

No enterprise has been more dependent for its character on "the men, the mind, the moral," that control its operations; and hence we shall discharge a duty by rendering justice as far as we can, to those who originated and nurtured the Telegraph System into its present magnitude and importance; and also by carefully noticing the movements, not of Companies alone, but of all Telegraph Officers—and we may add, that there are few public officers more important than the telegrapher, and none upon whose integrity the Public should be able more implicitly to rely.

While devoting all reasonable attention to Telegraphic Affairs, so as to render this Magazine valuable as *a Permanent Record of* the Great Enterprise of the Age, we will, whenever our primary object allows, freely discuss any question connected with the Progressive Spirit typified by the Electric Telegraph.

Receipts and Progress of Telegraphing in the United States.

It would astonish many among us to know the aggregate receipts of Telegraph Lines through the United States. We have now before us a manuscript statement of the receipts in the early days (1846) of the "Magnetic Telegraph Company," as the Line is called, which was first built between New York and Washington ; and when we compare the trifling amount of each day's receipts along the line at that time, with the large aggregate presented by the business on the same short line (only 240 miles) in this year of our Lord 1852, we may imagine a greater aggregate for the lines through the whole Union than some people would readily believe without "seeing the figures." And the figures they shall have, as soon as we can get them from every Telegraph Company in the United States. It is our aim to render this Magazine an accurate repository of every attainable fact in the current as well as in the early history of Telegraphing.

Six years ago—the month of June, 1846—the papers of New York and everywhere else through the land, chronicled the "glad tidings" of the connection then first formed by Lightning between New-York and Washington—the political and commercial capitals of the Union. It is a curious fact, considering the difficulties that soon after arose about the validity of contracts, &c., that parties since so widely severed, were then cordially united in mingling their congratulations with those of the public on the completion of the first Telegraph Line of equal extent ever built by individual enterprise. On the completion of the section between Baltimore and Philadelphia, a section constructed by Mr. O'Rielly, which finished the entire route between New York and Washington—the newspapers said the event was announced by the following despatch from Philadelphia, addressed to Professor Morse, at Washington :

"Henry O'Rielly congratulates Professor Morse on the completion of the Telegraph; and on the connection of the Hudson and Potomac by links of lightning."

To which, the following response was immediately returned from Washington :

"Professor Morse congratulates Mr. O'Rielly on the success of his labors."

We have much of the materials, and will give accounts of the origin and progress of this "Magnetic Telegraph Company," as well as of most or all other Companies in the United States. At present, we content ourselves with congratulating the Company on having a President so efficient as WILLIAM M. SWAIN, of the Philadelphia Ledger—one of the first men, as we have heard from Mr. O'Rielly, that responded to the invocations for aid when not a solitary merchant or capitalist in some of our greatest cities showed confidence enough in the "practicability" or "paying value" of the Telegraph, to advance a solitary dollar to sustain Professor Morse in the enterprise. Wishing for the sake of the enterprise, that SWAIN had a range of twenty thousand miles of Telegraph to manage, instead of his present short line (highly important and profitable though that short line is), we quote the following statement of its financial condition, as we find it epitomized by the New York Express—the editors of which paper had ample means for knowing the early difficulties in getting the line constructed:—

"RECEIPTS OF TELEGRAPHING.—We learn officially that the receipts of the Magnetic Telegraph Company (from Washington to New York), for the year ending June 30, 1852, was $103,232, and the number of messages 253,857. This does not include receipts or messages over the Bain Line, as distinct from the Morse Line for the last six months of 1851, the two companies uniting only at the commencement of the present year. The business extending from Washington to New York, it will be seen, is steadily on the increase :—

July,	1851	13,463	$4,991 62
August,	"	16,580	5,391 96
September,	"	16,744	4,979 35
October,	"	18,641	6,322 98
November,	"	15,969	5,798 50
December,	"	17,896	7,249 78
January,	1852	28,962	11,252 97
February,	"	27,880	11,341 75
March,	"	27,934	11,918 68
April,	"	25,523	11,114 01
May,	"	24,988	10,949 75
June,	"	25,298	11,882 08

"The number of messages sent in the first six months, is 99,313, producing $34,733 14 ; and in the last six the number was 154,514, producing $68,499 23. The following table exhibits the annual receipts of this Company, which was the first organized in the country, from its commencement to the present :—

From January 27, 1846, to July 1, 1846	$4,228 77
" July 1, 1846, to July 1, 1847	32,810 28
" July 1, 1847, to July 1, 1848	52,252 81
" July 1, 1848, to July 1, 1849	68,367 62
" July 1, 1849, to July 1, 1850	61,383 98
" July 1, 1850, to July 1, 1851	67,787 12
" July 1, 1851, to July 1, 1852	103,860 84

"The capital of the Company is $370,000. It has six wires from Washington to Philadelphia,and seven from Philadelphia to New York. It has offices at Washington, Baltimore, Havre-de-Grace, Port Deposit, Wilmington, Philadelphia, Trenton, New Hope, Princeton, New

Brunswick, Newark, Jersey City, and New York, and employs in its service, including messengers, outside laborers engaged in keeping the line in order, clerks, operators, &c., about one hundred and twenty-five persons."

◆

Per Contra!

Troubles and losses connected with the Progress of Telegraphing.

The prosperity of the short line between New York and Washington, known as that of the "Electro-Magnetic Telegraph Company," and the prosperity of a few other lines on some very important routes, like those between Philadelphia and St. Louis, must not be taken as a fair index of the general productiveness of Telegraph investments thus far.

Unfortunately, the manifold difficulties of a new enterprise, so different from any with which the community generally were acquainted, together with the harassing and expensive annoyances connected with litigation almost from the commencement of the Telegraph System, have affected most seriously the interests of persons concerned in extending the Lines into the new and sparsely-settled regions of the Union. While immense benefit has been conferred on the remote regions thus brought within range of lightning correspondence with the older settlements, the builder of the Telegraph, who commonly took much of his pay in the stock of the Lines he constructed, has found to his sorrow, when necessitated to realize money to pay his debts, that the stock was not salable at any thing like remunerative prices, owing to the temporary unproductiveness of dividends, from which criterion people generally judge (though they often judge incorrectly) about the *real and permanent* value of the Lines. Capitalists, who could afford to buy and wait till the early difficulties disappear, would ultimately realize fairly from stock in the principal lines, even through the newest regions; for it cannot be doubted that any *well managed* line through any region which increases in population and wealth like the western country generally, will pay soon and handsomely, no matter what difficulties it has had to struggle with in the commencement.

Future numbers of the Telegraph Magazine will contain facts and figures illustrative of this subject, as a matter of interest to the public at large, as well as a debt of justice to the enterprising parties who constructed most of the Lines on which the greatest sacrifices were suffered.

We could not allow the statement of the prosperity of the Electro Magnetic Telegraph Company to pass without these qualifying remarks—lest some superficial readers might imagine that that prosperity was equally enjoyed by all Telegraph Lines. Unfortunately some who have most benefited the American People by the lightning-like rapidity with which Telegraph Lines were extended, have suffered bitterly in sacrifices for that whch has thus signally promoted the public welfare.

◆

Extension of the Morse Patents.

Letter from Professor Morse.

The publication of a warning paragraph against the renewal of the Morse Patents, elicited from Professor Morse the following reply—addressed to the editor of the New-York Herald:

POUGHKEEPSIE, Aug. 26, 1852.

JAMES GORDON BENNETT, ESQ.

Dear Sir—I ask a small space for the purpose of correcting the errors of what I must call a very ungenerous paragraph, which I was surprised to see in your paper of this morning, headed, "A Warning to Congress—The Magnetic Telegraph."

I think I cannot be accused of troubling you often for this purpose, nor of obtruding myself officiously before the public, though often tempted to correct the many and reiterated misstatements made in various publications, detrimental to my rights, both as inventor and as patentee of the Recording Telegraph. I have been too long aware of the position which my Magnetic Telegraph holds in regard to the newspaper press, not to know that neither myself nor my invention, as an American invention, has much chance of justice,* much less of favor, from that source, at present—and this I say not in anger but in sorrow. It will not be denied that an invention bearing less directly on the pecuniary interests of the newspaper press, however such invention might affect those of other classes, not editors of newspapers, would meet with a different temper, and be commented on in a less prejudiced spirit, and would find some of these guardians of the avenues to public opinion both willing and prompt, from a sense of justice alone, to defend it and its inventor from the assaults of those who would commit frauds on the one and defame the other.

I am unfortunate in giving birth to an invention which, while it is confessedly the source of great public benefits, has been so managed, it seems, by some of my assignees (if we are to believe the accusations made against them), as injuriously to affect the pecuniary interests of the newspaper press. If this has, indeed, been the case, no one can more sincerely regret it than myself. But is it just to visit upon me the mismanagement of others, over whom I have no control?

Now, what is the evident intention of the paragraph in question? Undoubtedly to forestall any application I might, at a future time, make to Congress for an extension of my pa-

[* Is this "Justice" to "the Press" generally?]

tents; for I have not applied to Congress for such a renewal, and no one else can apply. Why this anxiety and haste to prejudice Congress and the public against my invention, or rather its management, so long beforehand? Why "warn" them? Why the threat, "take care?" Is it an appeal to the selfishness of the mere politician in that body, warning him that he is to encounter the hostility of the newspaper press if he dares to show me justice? Sir, that paragraph does not do you justice: it is not in accordance with your sense of right. I know you personally too well to believe it. I do not believe you would deliberately have recourse to positive misrepresentation of facts, when, had you been pleased to have asked me, I would have informed you of the truth. "Such an enactment," you say, "would by no means benefit the original inventor of the Telegraph, Professor Morse himself, who has little or no interest now in the old patent." So far is this from being true, that, on the contrary, it is true that nearly all my dependence is on my patents; for it should be remembered that the profession of my life was sacrificed to the consummating of my Telegraph. And can you estimate the mere pecuniary value to the public of my telegraphic invention in dollars and cents? Would it not amount to millions? Can money express its value in other respects? And is it not just that I should derive a small per centage from so great a capital thus used by the public, and at length to be given to them? Your own heart will answer this question right.

Although I have not as yet applied to Congress for a renewal of my patents, I am free to say that it is my intention thus to apply to the legitimate source, when the proper time comes; nor do I fear the result, for I shall rest on the intrinsic justice of my claims, when the mistifications and misrepresentations of those who have defrauded me, and would still continue to defraud me—whether it be anyof "the whole body of the people," any of "the newspaper press," or any of "the members of both branches of the national legislature," who are capable of being intimidated by threats, or won by bribes—shall be cleared away, and the true facts of the case presented for the consideration of those who are to act in the matter. And sir, I have not read your heart aright, if in this matter, too, I have not your cordial aid, rather than your opposition.

But one word more. If it were true that my assignees alone are to be benefited by a renewal of my patents, still I feel myself as much bound in honor to ask an extension of my patents for their sake, as if exclusively for my own. Why not? If they mismanage and abuse the power conferred upon them by the law, they are certainly amenable to some legal tribunal at least as able effectually to restrain the abuse, while it permits the use, as any other abuse of power or trust.

With respect, sir, your most obdt. servt.,

SAMUEL F. B. MORSE.

◆

Morse's Telegraph in the Old World.

Although in Great Britain, where Morse's Telegraph is not patented, and is therefore free for public use, gratuitously, it is not used, (the system of Cook and Wheatstone having been employed since the first establishment of Electric Telegraphs in England in 1839)—the plan of Professor Morse is finding much favor in Continental Europe.

In connection with the recent annunciation that the king of Würtemberg had awarded what is called "the State Medal of that Kingdom" to Professor Morse, the *New York Observer*, edited by the Professor's brother, says:—

"This is the third of the crowned heads of Europe who have conferred this honor upon our country. The Grand Sultan of Turkey took the lead, both in the time of manifesting his appreciation of the invention, and in the high distinction bestowed upon the inventor. The King of Prussia followed, and, on establishing the Electric Telegraph throughout his dominions, directed that the American system shall be used wherever intelligence is transmitted through 'great distances.' And now, the King of Würtemberg adopts *entire* the American system. It will be seen also that the German Telegraph Union, comprising all the States of Germany, after deliberating in convention at Vienna, on the best system for their 'international correspondence,' have come to the conclusion that none but the American system will fully accomplish their object. Professor Steinheil, the Administrator-in-chief of the Austrian Telegraphs, although himself the inventor of an electric telegraph which has procured for him a world-wide and well-deserved fame, with a magnanimity which does him high honor, has given his opinion in favor of adopting the American system in Germany."

The following is a translation of the official act:—"Extract from the Protocol of the Convention of Deputies from the German Governments which met at Vienna in the month of October, 1851, for the establishment of a German Austrian Telegraphic Union, &c.

"The Governments of this Union give their mutual assurance to bring into operation, at the latest, on the 1st of July, 1852, the direct transmission of telegraphic communications between the central stations of the respective governments, so that transfers upon intermediate stations will be no longer required, whenever the lines are not previously occupied, so that each of the central stations can enter into communication with every other.

"To accomplish this, *all the Governments* of *the Telegraph Union* adopt for the International Correspondence *upon each line, for the present*, MORSE'S TELEGRAPH, *with receiving magnets, registers, and uniform alphabet.*"

The History of the Origin and Progress of Telegraphic Inventions abounds with so many facts interesting to the whole civilized world, especially now when the lightning is rendered serviceable to all classes of society, in social life, as well as in political and business relations, that we will take early opportunity to present a review of the developments of electric and chemical science which have rendered the business of Telegraphing practicable, as we now find it embodied in Morse's and other systems—in which, of course, the truth of history will be vindicated by proper reference to the services of Professor Henry, Dr. Jackson, Prof. House, and other Americans who have signalized themselves in connection with various branches of the subject; while equal care will be taken to render justice to the eminent foreigners, like Steinheil, Ampere, Œrsted, Grove, and others, whose varied contributions have aided essentially in developing the laws which establish the Telegraph System on its present broad foundation.

☞ It is proper to note the discrimination made in reference to "distances." The "American Telegraph" is to be used in Germany where "*great* distances" are overcome; and this discrimination evidently refers to the portion of the invention known as the "consecutive circuits"—a matter "vital to the whole concern," and about which there is a contested claim—Davy and Cooke and Wheatstone, in England, contending that that system of circuits originated with them, or at least that their mode of "renewers," as they call them, is not in principle, though it is in application, different from, and was formed as early as, and without any knowledge of, the invention or claim of Professor Morse. The vast importance of this branch of Telegraphic inventions renders it particularly gratifying to find facts like the foregoing, strengthening the claim of originality on the part of our countryman Morse.

In all cases like the present we shall, in the first place endeavor as most satisfactory to our readers and ourselves, to give *all* the facts bearing on the matter, and afterwards, perhaps, our own opinion.

◆

Electro-Magnetic Locomotives—On or off the Track?

Two or three years ago Congress appropriated some twenty thousand dollars for enabling Professor Page, of the Patent Office, to demonstrate his proposed method of applying electro-magnetism as a motive-power on railroads and otherwise. Experiments and exhibitions were made, reports were published, and high hopes were created in many minds that the desideratum was supplied, and that the subtlest of natural powers was actually brought into suitable working harness for *practicable use* in the service of mankind. It was actually stated in the *National Intelligencer*—for whose statements and whose veteran editor we entertain high respect—that, in a short trial trip between Washington and Bladensburgh, Professor Page's electric locomotive attained speed at the rate of nineteen miles an hour for a little while, during which "the battery was fully up." "The great point *established*," added the *Intelligencer*, "was, that a locomotive on the principle of Prof. Page can be made to travel nineteen miles an hour."

Considerable time has elapsed since this experiment; and little or nothing more has been heard of the invention. Will the venerable editor of the *Intelligencer*, or will Dr. Page himself, favor the public with information of what, if any thing farther, has been done with the invention thus patronized by Congress, since its power was "established"?

Professor Page has talent and experience enough, to justify us in believing that he is more likely than most men to be the successful applicant of electricity as a motive power; but unless his lightning locomotive is quickly and powerfully in the field for effective practical service, it may be distanced or "run off the track" by the Caloric Engine, which Ericsson is now applying in lieu of a steam-engine to a gigantic ship now in process of construction—saying nothing of the Static-Pressure Engine, with which Sawyer & Gwynne propose to revolutionize the world, "some of these fine days."

By the bye—since the foregoing article was prepared, we have seen a statement respecting "a New Electric Engine," constructed by Cotter & Candee, of Poughkeepsie, for Mr. Gusten the inventor, of New Jersey. While we are by no means ready to yield our faith until we see stronger evidence than is furnished by the seemingly satisfactory operation of a few experiments on a model engine, it is well that the inventor should be fairly heard. The Poughkeepsie Eagle says:—

"During the building of the machine we have watched its progress, and its different parts have been explained to us. When Mr. Gusten came to Poughkeepsie, he brought a small battery with him, which he thought was not sufficiently powerful to move the machine when finished. But on its completion the battery was applied, and the engine instantly moved, and ran with great regularity and with some power. This so much more than exceeded the expectation of the inventor, that all doubts in his mind was expelled. This machine is the model for a powerful engine. It can be run with far less expense than a steam engine, its power will be more uniform, less room will be required, no boilers will burst, and it will not affect insurance. We have confidence that the long sought for power has now been practically applied, and that great benefits will result from it. In a few days a larger battery will be procured, and the engine applied to machinery, to test its power, after which we will say more about it."

"Telegram"—a new Coinage.

The facility with which new words are manufactured to suit the necessities of our "improving" condition, is truly "a feature" in the history of this progressive age.

Among the various linguistical novelties generated in the development of the Telegraph enterprise,—of which novelties we will furnish a small dictionary, in a future article, for the uninitiated—may be particularized the word "*Telegram*," suggested by Professor Smith, (?) and for which the Albany Evening Journal stands godfather—as follows:—

"A friend desires us to give notice that he will ask leave, at some convenient time to introduce a new word into the vocabulary. The object of this proposed innovation is to avoid the necessity, now existing, of using two words, for which there is very frequent occasion, where one will answer. It is TELEGRAM, instead of Telegraphic Dispatch, or Telegraphic Communication. The word is formed according to the strictest laws of the language from which its root comes. Telegraph means to write from a distance—Telegram, the writing itself, executed from a distance. Monogram, Logogram, &c., are words formed upon the same analogy and in good acceptation. Our friend, moreover, says that the House Line, if disposed to be precise, should call *their* communications Teletypes, as they are printed, not written. In a generous spirit of toleration, he proposes no action upon the last suggestion; but as to everybody else, except the employers and customers of the House Line, he would have them "held and firmly bound" to speak, write, print, and telegraph, *Telegram*, instead of any two words signifying the same thing, under penalty of being considered verbose and tedious."

Atlantic and Ohio Telegraph Company,

Extending, partly on two routes, from Philadelphia to Pittsburg (and connecting with New York by a wire hired from the Magnetic Telegraph Company). At the meeting at Bedford Springs, held on 15th July, the former officers were re-elected, viz.—James K. Moorhead, of Pittsburg, President, and A. B. Cumings, of Philadelphia, Treasurer. James D. Reid, the Superintendent, originally selected by O'Rielly, is yet continued in that office.

Political and Social Effects of the Telegraph.

In noticing a recent allusion in Congress to the policy of a removal of the Federal Capitol from Washington to a point nearer the geographical center of our vast Confederacy of States, the *New York Herald* alludes to the efficacy of the Telegraph in settling that long-agitated question.

"We observe," says the Herald, "that Mr. D. K. Cartter, of Ohio, in the course of the debate (about making appropriations for adding 'wings' to the Capitol), intimated that it was almost useless to repair the building, as the Capitol would be removed to the West before a great while. Some years ago, there were good grounds for supposing that the seat of government would be removed to a more central location, but the telegraphs have entirely superseded the necessity for any such movement. At the present day, one place appears to be about as convenient as another. The telegraphic wires place the people, throughout the length and breadth of the Atlantic side of the country, in almost instant possession of the Congressional proceedings; and it will not be a great while before the inhabitants of the Pacific coast are similarly favored. This is all that is desired. It would be a mere wanton waste of money to remove the Capitol under existing circumstances."

Alluding to the telegraphic feats by which Presidential documents are sometimes transmitted almost to the (recent) extremities of the Union, the poet Pierpont has a passage that will derive additional illustrations when the Lighting Lines are extended to the Pacific Ocean:—(It was written during the brief administration of President Taylor)—

"A Hero Chieftain, laying down his pen,
Closes his eyes in Washington at ten:
The Lightning Courier flies along the line,
And at St. Louis tells the tale at nine—
Halting a thousand miles whence he departed,
And getting there an hour before he started."

"Abuse" of the "the Telegraph."

While "the Telegraph" is often vaguely charged with misrepresentations which really originate with the *News Agents* who use the Lightning in transmitting intelligence to the very Journals which thus shower blame upon "the Telegraph" instead of their own blundering correspondents—while the Telegraph, in common with many other matters, has to suffer from vague and unfounded assaults and prejudices—it cannot be *always* assumed, though we fervently trust it may be the fact in the following case at New-Orleans, that the charges against "the Telegraph" are entirely unfounded,—arising wholly from misapprehension.

One object of the "American Telegraph Magazine," is to afford an impartial medium for investigating and correcting errors and abuses; and where any charge is specifically made by a responsible authority, as in the following case, we shall deem it a duty to contribute our share to its examination.

In its quotations of the "Spirit of the Press," the New York Express, some time ago, said:—

"The N. O. Picayune charges a regular system of swindling upon itself by some of the operators for the Telegraph in that city. It says—'In the office in this city there used to be a transcribing clerk who made a business of retailing out our despatches, which were procured at great expense. Whilst we were running an express, its contents as telegraphed from Mobile were regularly rifled by this individual, who sold out the news to sundry parties in this city—who will have to pay for it yet, or else the town will be much edified by revelations which will take place in one of our courts of law. Five others of this city, daily complain of foul play."

The magnitude of such charges renders it due to the Telegraph System itself, as well as to the credit of all honorable Telegraphers —additional to what is due to the cause of Public Justice—that the names of the guilty parties may be distinctly stated, so that the faithful operators may not suffer under wrong suspicion, and that the culprits may be promptly excluded from all connection with Telegraphic operations. The public should have the benefit of full "revelations" in such cases as are referred to by the Picayune.

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Another Charge.

A complaint similar to that of the "Picayune" was at one time made, and in some degree substantiated, by an agent of the "Associated Press" of New York. He charged, and we believe produced evidence of the fact, that the news bought and paid for by the "Association" was stolen and sold to other papers, by several telegraphers, who colluded together for the purpose of making money out of the infamous business. How this affair eventually terminated, we are not aware: but this much we can say, neither the Press nor private individuals can render a more important service to the "Telegraph," or one that will be more highly appreciated by all honorable men engaged in that business, as well as by the community, than by immediately naming and fully exposing every person proved to be directly or indirectly interested in such nefarious practices; and the Managers of Telegraph lines will inevitably find it to be the worst possible policy to endeavor to "hush up" such matters, and retain the delinquents in their offices.

The Telegraph System asks the fullest confidence of the public, and cannot be successful without it; and very gratifying is it to know that, in a business so widely extended and seemingly so irresponsible, the claim to public confidence has been so seldom forfeited.

In some instances, it is said, small fortunes have been *offered* to Telegraphers if they would betray the contents of a single message. Scarcely an extensive mercantile house or a bank fails, but that the failure is foreseen by the Telegraphers, in distant cities, hours and days before it is dreamed of by any one else except the agents of such house or bank. And we say it is highly honorable to the telegraphic fraternity, and entitles them, as a general thing, to the fullest confidence of the public, that the instances where any amount of temptation could swerve them from the path of duty and honor are so exceedingly rare—more rare than the robberies of the mail by those entrusted with it. And when any telegrapher does, for whatever cause, violate the confidence reposed in him, and steals the property of others to enrich himself, it is due to all honorable men engaged in the telegraph business, that the thief, his aiders, abettors, and sustainers, should receive the same amount of public justice and indignation as is meted out to other candidates for the penitentiary and whipping-post.

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Paine's Ventilator—Not Gas!

The censorious world, so long employed in "kicking up a dust" about the alleged failure of Paine's plan for converting water into gas, seems inclined now to concede large credit for a successful mode of ventilating railway cars, by means which at the same time exclude all "dust." We have not seen enough of the invention to justify our expressing a decided opinion; but our impressions are favorable. Many who have journeyed in cars provided with Paine's ventilator, speak warmly of their comfort. The Editor of the Courier and Enquirer, for instance, gives an item of his experience thus:—

"Some weeks since, we left here in the New Haven train for Springfield. It was on the 7th of July—one of the hottest and dustiest days of the year; and never did we encounter such heat and dust as completely enveloped us for the first hour. We were then, however, invited into the last car, by the conductor; and there, instead of finding the dust and heat even less tolerable than in the forward car, we found ourselves and party in quite an agreeable atmosphere without a particle of dust; while outside of the windows the dust so entirely enveloped the cars that it was barely possible to perceive at intervals the trees and fields along the road. It of course required no necromancy to discover that we were in an improved car of some description; and when we were introduced to Mr. Paine, and heard his explanation of the causes which were operating to produce the pleasant state of things around us, we could not withhold our admiration of the simplicity of his improvement and its triumphant success."

☞ Success in this important project will atone for multitudinous disappointments in other plans heretofore benevolently suggested by Mr. Paine, for promoting the comfort of his fellowmen, including the "women and children." And the blessings of every railroad traveler throughout the land will hereafter sufficiently protect the worthy inventor from all the perils of exploded gas-retorts and diabolical air-guns, by which (as well as *for* which) Mr. Paine acquired celebrity as the "great shot-at," and so forth.

Telegraph Communication with New Orleans.

There are now, and have been for some time past, two lines of Telegraph connecting New York with New Orleans—a Morse line along the seaboard, with an office at No. 6 Hanover street, New York—connecting Washington, Petersburgh, Charleston, Savannah, Mobile, and other seaboard towns, with the commercial Metropolis of the Southwest; and an "O'Rielly" or National line, with an office at No. 2 Wall street, going through Pittsburgh, Cincinnati, Louisville, Memphis, Nashville, and other inland towns (united with a Morse Line, that also connects some of those towns), to the same termination as the former.

The Morse seaboard line is under the superintendence of Col. Alexander, of Georgia: the O'Rielly range of lines to New Orleans, is under the control and management of James D. Reid, Esq. Both lines are doing a good business, and in a manner tolerably satisfactory to the public. We look, however, with confidence for a great decrease in the average time necessary to send and receive messages from New Orleans. Though, perhaps, the best that was possible, under the circumstances, has been done on both these lines, there is certainly room for great improvement; and the Company that best appreciates this fact, will inevitably secure a majority of the business.

House's Telegraph.

The owners of the patent for "House's Printing Telegraph," are pushing their interests forward with a good deal of vigor. In our next number, we shall give a correct list of all the lines in the United States, with remarks going to show the intrinsic value of each. Such a statement will be of importance for many reasons; and among others, as showing the extent to which the different Telegraph instruments are used—which will probably be no bad index of their comparative value.

Submarine Telegraphs—in Europe.

Since the successful establishment of the submerged line, under the Channel between France and England (at Calais and Dover), the seas and oceans form no impediments to the projects, whatever difficulties they may interpose in the realization, of Submarine Telegraphs. So far, certainly, the success of Submarine Telegraph operations forms an interesting feature in the history of Electric Progress. Mr. Jacob Brett, of London, who was not long ago considered almost "visionary" by some wiseacres, has not had to live very long before enjoying the success of at least some of his submarine schemes—of which this English and French Telegraph is one. He is granted a privilege for ten years by the French Government; and is to connect several points on the French coast, and between the French coast and other European countries, by submarine lines.

Projects are under way for connecting France and Holland, and also France and Algeria; but we have not at present any particulars.

Some of the British and Irish Journals contain glowing accounts of the successful establishment of the Telegraph Line under the Irish sea, between Holyhead, in Wales, and Howth, near Dublin. We avail ourselves of an abstract from our "Home Journal:"—

"A London paper contains a description of the laying down of the telegraph wire, coated with gutta percha, and inclosed in a coil of galvanized iron wire, by which the line of telegraphic communication is completed from London to Dublin. This line of submarine wire is eighty miles in length; and, strange as it may seem, it was laid down in a single day. The whole work was executed with an expedition that is remarkable. Mr. Statham, conductor of the gutta percha works, was asked if he could supply "eighty miles of telegraph wire, doubly covered with gutta percha, within a fortnight?" He replied, "I'll try," and accordingly made the attempt, which he completed in twelve days, proceeding with the latter part at the rate of twelve miles a day. The coated wire was then sent to Gateshead on Tyne, to be surrounded with twelve galvanized iron wires twisted spirally around it. It was then sent to Holyhead, where the Admiralty employed Captain Beechy, of the navy, and the government steamer Prospero, under the command of Lieutenant Aldrich, to aid in laying it down. The enormous cable, eighty miles in length, in a continuous piece, and weighing a ton a-mile, was wound up into immense coils, placed on trucks, one after the other, and drawn by steam from Newcastle-on-Tyne to Whitehaven, where it had been intended to put them on board the Britannia steamer; but, it being found that the entrance to the dock was too narrow for that vessel, they were again placed on trucks and conveyed to Maryport, where they were embarked for Holyhead. Some difficulties were encountered before the preparations were in train for laying down the wire; but, these being overcome, early on the morning of the 1st instant, the Britannia, towed by the Prospero, began *paying out* the cable, which sank by its own weight to the bottom of the sea, from Holyhead to Dublin. Occasional difficulties occurred, which were overcome by the care of the operators, and a progress was made of from four to six miles an hour; and the whole was completed in sixteen hours, the Britannia anchoring in the harbor of Dublin before eight o'clock the same evening."

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Submarine Telegraphs in America—Proposed Newfoundland Route—Shortening the Time of Communication between Europe and America.

The Newfoundland Electric Telegraph Company is formed under a Charter granted by the Governor, Council, and Assembly of the Province of Newfoundland, which Charter gives to the Company an exclusive privilege across that Island for 30 years, besides other advantages.

The line runs from Cape Race up to St. John's, and thence, almost in a direct line, to Cape Ray, a distance of 400 miles.

From Cape Ray a submarine wire will reach to Cape East, in Prince Edward's Island. Traveling across that Island, it passes through Charlottestown, the capital of the Province. Again, a short submarine line of nine miles crosses Northumberland straits; and finally the wire reaches Amherst—there completing the circuit which connects with the present Nova Scotia, Portland, and New York lines.

The district of Prince Edward's Island, through which the wire passes, is populous, and possesses little waste land. The charter is only dated in April, 1852; and already the Company, having procured the requisite means, have contracted in England for the land wire, and also for the manufacture and laying down of the submarine line, for which part of the enterprise the contract has been taken by the eminent firm that has already laid down the lines between Dover and Calais, and Holyhead and Dublin; and there is no reason to doubt but that the line will be in perfect order by the first of June next.

The business of the Company is carried on at No. 11 Wall street, New York; and Richard B. Kimball is the President, and Horace B. Tebbetts, Vice President and Managing Director.

The importance of this line is obvious. St. Johns is the nearest port to Europe; and the Company are now building a steam packet for the purpose of intercepting the European steamers, and transmitting their news by telegraph, which will effect a saving of the time consumed by steamers of 1000 miles to New York, and 500 to Halifax.

The telegraph lines in Europe communicate (through Great Britain) with Galway in Ireland, which is 1647 miles distant from St. John's, Newfoundland; and on the completion of this line, and should the lines projected by Mr. O'Rielly to California be carried into effect, the only break in the electric girdle around the world will be the Atlantic Ocean. And should science and art ever advance so as to cross the ocean, this line will become, as indeed it will be on its completion, *the highway for telegraphic news from and to Europe.*

The importance of this line to the merchant and shipowner will be great. Most vessels on their passage from Great Britain, sight Cape Race, and the shipowner can learn the safety of his vessel and arrival at that point on her voyage.

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While much of the credit of carrying out this important enterprise is due particularly to Mr. Tebbetts (who has for some time been laboring earnestly to promote the establishment of steamers between New York and Galway, to touch at Newfoundland, where their operations, so far as news is concerned, would connect with the proposed telegraph lines), it is justice to add that the efforts of Frederic N. Gisborne, Esq., have essentially aided the progress of the undertaking. Mr. G. resigned his position as superintendent of the Nova Scotia Government Telegraph, for the purpose of devoting his whole time to the consummation of this enterprise. Mr. G. has been in England, advancing the object of the enterprise, and will soon be on the proposed route, superintending the construction; and we are assured by Mr. Tebbetts (who will it is hoped, have equal success in organizing the Galway steamer line), that every thing is ready for a speedy completion of the telegraph line which is thus to bring us by lightning within 1700 miles of the Irish coast.

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Pittsburg, Cincinnati, and Louisville Telegraph Company.

This Line, like the "Atlantic and Ohio," is one of the most prosperous in the Union. The officers are nearly, and the management almost entirely, the same as on the "A. & O." Line—the seat of government in both being Pittsburg. At the election in Cincinnati on the first Monday of June, Gen. Moorhead was re-elected President; Joshua Hanna, Treasurer; and Mr. Reid, Superintendent.

A quorum of Directors in each Company, being the same persons at Pittsburg, virtually render the operations of the two Companies the same as though they were united under one charter—each company, however, retaining its distinct organization and business.

The Press vs. The Press, in the matter of Telegraphic Reports.

Telegraphic Reports.—When the telegraph reporter at New York sends us the speculations of a hired scribbler of *The Herald*, in regard to *future* political movements, we desire him to give his authority, and not impose such stuff upon the press and the public as *news*. There has been too much looseness in this respect. Its correction will save the public from imposition and the press the trouble of correcting or suppressing paragraphs of the character alluded to.—*Rochester Democrat.*

We have had occasion more than once to allude to the character of the telegraph reports received over the Morse Line. The gentleman who makes up the reports is evidently unfit for the post, and ignorant of the wants of the papers which have the privilege of paying a considerable amount of money for the trash which he transmits over the wires. We are constantly receiving such "speculations" on the future as are alluded to by *The Rochester Democrat;* and the pertinacity with which party politics are suffered to creep into brief paragraphs of the report, looks very much like design. We hope this will be remedied without further delay. On several occasions, too, when the usual string of trash has been forwarded to this city, steamers have been in Halifax, Boston, or New York, of which no mention has been made, and the New York papers of the same afternoon have contained columns of interesting news. The usual interruptions and annoyances of the line, are bad enough in all conscience, without having a blundering, incompetent, or partial reporter at headquarters.—*Buffalo Com. Advertiser.*

Remarks by the New York Tribune.

We deem it but fair to other parties to state that the reporters above alluded to have no connection with the Associated Press of this City. They are a private firm who act in the capacity of general news reporters for the Morse line of telegraph from Albany to Buffalo—the only line connected with this City that makes news a *merchantable commodity.*

The evils under which our Rochester and Buffalo contemporaries labor, are not the worst that are to be met with in this telegraphic age. They are bad enough, we admit, but, as the despatches alluded to generally carry their character on their face, their publication may be suppressed by those who do not like or believe in their predictions. But there is one evil connected with the telegraphic news business which is of a more serious nature, and should call down on its authors the severest reprehension of the whole press. We allude to the manufacture of *false news*, and its transmission over the telegraph wires to journals at a distance, whose editors cannot judge by its complexion whether it be true or false. This news manufacture is carried on to some extent in this neighborhood, as well as a little further south of us, especially on the arrival of the Cunard steamers at Halifax. The intelligence thus manufactured is now sent exclusively, we believe, to papers at the South and West; but some of our contemporaries nearer home have heretofore been imposed on by it. We learn from several articles in late Charleston papers, that our contemporaries in that city are beginning to have their eyes opened in this matter, and a stir is being made that will probably lead to the ferreting out of the perpetrators of the swindle, and put a stop to their disreputable practices.

Remarks by the Telegraph Magazine.

The quicker such practices, if they exist as stated, as those above alluded to, are abated, the better for all concerned. But we are inclined to think that the Western papers are much more in fault than any telegraph line. They are abundantly able to procure the services of a reporter of their own selection: this they decline doing, preferring to arrange more economically with the "New York, Albany, and Buffalo Telegraph Company," of which Mr. Faxton, of Utica, is President, to furnish them the current news of the day at a very low price; to do which, the company sends the reports of news agents equal in point of reputation to any in the city. This is all the "merchandise" that that line makes of the news.

Several of the editors between here and Buffalo, a little more than a year ago, made an arrangement with an agent of the "Associated Press" to furnish them two daily reports, believing that that person had peculiar facilities for giving them the earliest and most reliable intelligence. But, for some cause, his reports were so irregular and unsatisfactory, that the papers, after suffering much inconvenience, were obliged, in self-defense, to terminate the arrangement, and return to "the only line that (in its efforts to accommodate the Western press generally) makes news a merchantable commodity."

The allusion in the *Tribune* to the manufacture of "false news," is a more important matter; and any parties engaged in the vile business cannot be too quickly exposed. But we apprehend all possibility of imposing on the public false intelligence, at least as far as foreign news is concerned, would be avoided, if some of the lines connecting with Halifax, which we are informed give extra facilities to the agents of certain papers, (as stated in another article of this Magazine), would reform the error, and treat all alike. This would be but simple justice; and more iniquity may come of a contrary system, than the *Tribune*, or any person not familiar with the telegraph business, would be likely to foresee.

We are opposed to having telegraph companies act in any way as agents in furnishing news, otherwise than as mere "common carriers" of news despatches furnished to them like other despatches for transmission. The New York and Buffalo Company gets "more kicks than coppers" for its well-meant efforts to accommodate the Press by the course it now pursues; and we shall be glad to hear that the practice is changed, and the news business left exclusively to the newspapers to manage for themselves, in the way that other intelligence is received and transmitted by telegraph. As one of the Press ourselves—somewhat familiar with newspapers—we speak in this matter with all proper consideration due to the press as well as to the telegraph.

We go still further, in justice to the public, as well as to the press and the telegraph. ☞We are opposed to any man who acts as news agent for the press, and who gets despatches on better terms because it is considered a *public* benefit thus to accommodate *the press* —we are utterly opposed, we repeat, to any person using the facility thus enjoyed for the purpose of promoting the speculations of persons in different parts of the Union who may think proper to pay him for "making a merchantable commodity" of the news which should be given only to the journals for which they were intended.

The subject is a very important one; and we will not lose sight of it till all such abuses are more fully guarded against.

New York and New England Union Telegraph Company.

THIS is the name of the new Corporation formed out of the two lines formerly known as "Morse" and "Bain" Lines. The first-named line was constructed by Francis O. J. Smith, and the latter by Henry O'Rielly. The "united" Company has a capital represented by stock at $300,000. Before uniting, these lines, as well as the "House" line, were for awhile running each other at rates (10 cents for a despatch of ten words!) between New York and Boston, which would soon have used each other up. The charge is now 25 cents—reasonable enough.

The direction of the "United Company" contains representatives from the two former ones—viz. Francis O. J. Smith, John McKesson, E. Cornell, Peter Naybor, Thos. M. Clark, Marshall Lefferts, Charles H. Seymour, and A. A. Pettengill.

The President of the Union Company is Henry M. Schieffelin, a highly esteemed merchant, who was first President of the Line which O'Rielly constructed. The Secretary and Treasurer is L. L. Saddler, who held the same offices in the Morse Line built by Mr. Smith; John Lefferts, who was Inspector and Repairer of the Bain Line, is Superintendent.

Gustavus Swan, who commenced with the line when O'Rielly was constructing it, continues as Chief Telegrapher of the Union Line. We speak advisedly and without any wish to disparage the services of other officers, in saying that no man concerned in managing or working the Line has rendered more services in making its operations reliable for the press and the public.

Patent Laws and Patent Tinkering.

Hardly any bureau at Washington furnishes greater scope for roguery, than the Patent Office; and scarcely any laws could be made to promote rascality more effectually than some of the Patent Bills which have been smuggled through, or nearly through, at every Session of Congress for the last seven or eight years. Some of the patents which are intended to be directly or indirectly benefited by this Congressional tinkering, as shown in the late Report of the Hon. D. K. Cartter, are worth several millions of dollars, if we may credit the official and other statements about the Woodworth patent; and the same remark is applicable to some other patents, the owners of all which have immense inducements to use extraordinary means for *operating on Congressmen* as well as on the Examiners in the Patent Office.

We have elsewhere alluded to the propriety of overhauling the Patent Office, for the purpose of correcting abuses long and generally denounced; but the object would be scarcely half accomplished, unless searching inquiry were also instituted respecting the extent to which members of both branches of *Congress* are interested pecuniarily in promoting the objects of some patentees, and thwarting the honest claims of others.

History of Telegraphing.

As few subjects interest the public now more than that of *Telegraphing*, and as we design to render this publication literally a "Magazine" of facts for convenient permanent reference on all points connected with Electric Telegraphs, we will publish in our next number a "History of Electric Progress, in its connection with Telegraphing." The materials were collected for legal purposes, with much research and expense; and will be found valuable in various ways, in illustrating not merely the origin and progress of the Telegraph, but of the sciences which have rendered telegraphing practicable, as well as the respective claims of eminent Electricians and Chemists for shares in the fame justly belonging to those who contributed to the great results which the world is now witnessing, in the triumphant progress of Telegraphic enterprise.

Abuses in the Patent-Office, illustrated by Ex-Commissioner Burke.

The Senatorial Committee for investigating alleged abuses in different branches of the government, will probably overhaul some of the transactions of the Patent Office. The Chairman of the Committee is Gen. Samuel Houston; and from his general character, as well as from the fact that it was on his motion that the Committee was raised, high hopes may be entertained that he will make thorough work with the investigation.

The PATENT OFFICE is eminently entitled to General Houston's consideration. No one has higher confidence than we feel in the integrity of MR. EWBANK, the Commissioner of Patents; but, unfortunately, it is almost impossible for him, or for any other head of that important bureau (as Ex-Commissioner Burke truly remarks), to know all that is passing among the subordinate officers—on the report of some of whom (such as the Examiners), his official decisions must be essentially based.

A signal instance, in illustration of this point, is furnished by a pamphlet now before us, respecting the "*Abuses of the Patent Office*, and the *Necessity of Reformation*—depicted in an address from the *Hon. Edmund Burke*, late Patent Commissioner." The case which Mr. Burke mentions particularly, is apparently one of great wrong. Opportunity seemed to have been taken by some interested parties, while he was absent in New Hampshire, to impose on the Acting Commissioner (Mr. Sylvester), in such manner as to obtain an improper re-issue of a patent, which is worth several millions to its owners. Mr. Burke points with great severity to the agency of one of the Examiners in the Patent Office, who co-operated with a certain patent agent in hastening all the formalities of a re-issue with railroad speed, instead of informing the then Acting Commissioner (Sylvester) that the re-issue had been refused by a former Commissioner, Ellsworth. When an ex-Commissioner frankly acknowledges that such transactions may be *and are* perpetrated by persons holding prominent stations in the Patent Office, he is entitled to opportunity for explaining why it is that he allowed the guilty party to continue in office during his own administration of that important bureau. The reader's attention is especially invoked towards the disclosures in this particular case—disclosures which it would rejoice us if we could believe they would find no parallel in the discoveries which will probably be madeby Senator Houston and his Investigating Committee.

"I will briefly allude," says Mr. Burke, "to one more topic touched upon in Mr. Keller's communication:—

"I did not remove the Examiner who passed the re-issue of the Woodward patent! And from this fact Mr. Keller would have the public infer, that I, at least was an accomplice after the fact, to the transaction to which I take exception.

"A simple statement of facts will explain to the comprehension of ingenuous minds, what seems inexplicable to Mr. Keller."

"Mr. Keller very well knows, that the Commissioner of Patents has too many things to attend to, constantly, without turning his attention to matters not coming before him in the regular course of business, unless he has especial occasion to turn his attention to things not thus coming before him. And he well knows, that no Commissioner of Patents would be likely to turn his attention to the Woodworth patent, or to any other matter upon which the Office had passed, without some *special* reason for so doing."

"Such was the case with reference to myself concerning the Woodworth patent. I had no occasion to look into the history of that patent until I received a letter from the Chairman of the Committee on Patents, of the United States House of Representatives, requesting information concerning the extension of the Emmons Patent for a planing machine, which was then pending before that body. This, I think, was in the spring of 1848. It might have been before. In accordance with the request of the Chairman of that Committee, I examined the papers relating to the *extension* of the Woodworth and Emmons patents, which were on file in the Patent Office. *That* was the matter inquired for, and *not* the *re-issue*. And among those files I found Mr. Ellsworth's opinion *against* the principal claims in the Woodworth patent. I made further examination into the history of planing machines, and satisfied myself that Mr. Ellsworth was correct in the opinion which he had expressed. And I communicated the result of my researches to the Committee, recommending, inasmuch as the Woodworth patent, which possessed but *very little merit*, had been extended, the extension also of the Emmons patent; believing that the public interest would suffer less by having *both* in the field as rivals, instead of permitting the owner of the Woodworth patent to have an exclusive monopoly of the market."

"I did not, as I have remarked, on this occasion, examine the files or records relating to the *re-issue* of the Woodworth patent, and therefore learnt nothing then, of the *very extraordinary circumstances* under which it was re-issued. I did not know that *Mr. Ellsworth had refused it*, nor that Keller (the *ci-devant* Examiner) had become the *agent*, and had procured its re-issue *through his friend and former assistant*, *Mr. Fitzgerald*. *They* had communicated the secrets of which they were possessed, to no one, to my knowledge. *I never knew* of the circumstances attending the re-issue of the *Woodworth patent* until the summer of 1849, *after* I had left the Patent Office. Then I was requested by a gentlemen in Philadelphia to examine the files of that case, which I did, and *to my surprise and deep regret*, I found the facts relating to its re-issue as I have above stated them. I felt that *gross injustice*, if not a *gross fraud*, had been *perpetrated upon the public*, and that persons had been concerned in it, for one of whom, at least, until that time, I had entertained a high opinion. And what caused deeper regret in my mind, was the fact that the transaction *took place during my administration* of the Patent Office. I felt it to be *a deep stain upon the Office*, and well calculated to bring *suspicion* and *distrust* upon it.

"In *these* circumstances Mr. Keller can find the reason why I retained in his place the Examiner implicated, and why he (Keller himself) was always treated with kindness and respect by me, while I remained in office. If this explanation will not satisfy him, I flatter myself it will all candid and upright minds. And *will candid and honest men be surprised that I should*, after obtaining a knowledge of the circumstances I have above related, *regard the re-issue of the* WOODWORTH PATENT *as a* FRAUD UPON THE PUBLIC?"

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Telegraphs along Railroads—New York and Erie Railroad, &c.

As might have been expected from the sagacity and energy which characterize its operations generally, the New York and Erie Railroad was among the foremost in endeavoring to secure the advantages of *the Telegraph* in connection with the transaction of the Company's business along the route, and also for the convenience of travelers. Although the Telegraph is not yet used to the extent that it can and should be used even along this line, the advantages of it are already appreciated in the daily business of the efficient officers of the Company. By it, the President, Secretary, and Superintendent, resident in New York, have a sort of ubiquitous supervision of the current transactions at the principal stations along the whole extent; though it is in their power to make the Telegraph still more useful in facilitating their business, and in promoting the safety of passengers. It is doubtless measureably attributable to the Telegraphic facilities it enjoys, that the Erie Railroad has suffered less from accidents than any other Railroad of equal extent in our country. (By the way, it is worth a trial, the enjoyment of a journey in such roomy and luxurious trains, through regions so romantic.)

If any man in the West is doubtful about the value of telegraphic facilities along a Railroad, let him consult the practical experience of such persons as the Hon. John Brough, President of the Madison and Indianapolis Road—one of the most successful Railways in the Union; although even Judge Brough has yet to experience important benefits from a fuller application of the Telegraph along his lines.

In the next Magazine, we will refer particularly to the proposed "Railway Telegraph System," as shadowed forth in the circular lately published on that subject. Meantime, we invoke the attention of all Railroad Companies to the propriety of speedily supplying themselves with lightning, as one of the most powerful agents in regulating the business of Railroads—so as to prevent those awful accidents which too frequently make sad inroads upon the limbs and lives of passengers, as well as upon the credit and cash of too many Companies.

◆

Responsibility of Telegraph Companies.

The question how far Telegraph Companies are responsible for errors made in communications entrusted to them for transmission, is still unsettled. Judge Buchannan, of New Orleans, has decided that the company is only responsible for the price of the message or communication.

With all due deference, we think Judge B. is wrong. Errors in transmitting communications are never necessary: they are always the result of carelessness; and as great loss may result from such carelessness, it is our opinion that those indulging in it ought to pay for it. We shall hereafter publish Judge B's. decision, with more extended remarks.

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New York State Printing Telegraph Company, using House's Invention.

At the annual meeting of the Stockholders of this Company, held in Rochester, July 5th, the following gentlemen were elected Directors for the ensuing year;—Levi A. Ward, Geo. H. Mumford, Freeman Clarke, Isaac R. Elwood, Eleazer Conkey, Isaac Butts, Hiram Sibley, Henry S. Potter, Jas. Chappell, David R. Barton, John T. Lacy, Chauncy Duryee, Samuel L. Selden, Wm. H. Perkins and Wm. Alling, of Rochester; Roswell Clarke, Albion; Stephen D. Dillaye, Syracuse; Archibald McClure, Albany; Walter W. Webb and Wm. Ingram, of Troy; John S. Sleight, Poughkeepsie; Francis Morris, David Dows, Clarence Livingston and Freeman M. Edson, of New York.

The Board of Directors organized by the election of Levi A. Ward, President; George H. Mumford, Vice President; Freeman Clarke, Treasurer; Isaac R. Elwood, Secretary; Levi A. Ward, Freeman Clarke, Hiram Sibley, Sam'l L. Selden, Isaac R. Elwood, Executive Committee.

THE COAST SURVEY AND THE TELEGRAPH.

On the Longitude of the Cincinnati Observatory, by Telegraphic Operations, in connection with the U. S. Coast Survey. By Prof. O. M. Mitchel, Director of the Cincinnati Observatory.

Prof. O. M. Mitchel addressed the Association on the subject of the telegraph operations of the Coast Survey, between Philadelphia and Cincinnati, in 1848, for the purpose of determining their difference of longitude, as follows:

"It is well known to the members of the Association that an astronomer, who wishes to avail himself of the computations of the places of the heavenly bodies, made for observatories of foreign nations, must determine his longitude from them. In the early commencement of my labors, this was effected with much success, by observing the transit of Mercury, of 1845.

"In 1848, the Coast Survey, having need to determine the longitude of New Orleans, and having for this purpose selected the western line of telegraphs, as far as completed, I was invited by Prof. A. D. Bache, Superintendent, to furnish the coöperation of the Cincinnati Observatory. This offer was the more readily accepted, because the junction with the Atlantic stations of the Coast Survey would render available for our use the extensive series of results already in its possession. The junction line from the city to the Cincinnati Observatory, was erected in 1847, and presented by Henry O'Rielly, Esq., to the Observatory. Very liberal arrangements for the work were made by James D. Reid, Esq., General Superintendent of the Western O'Rielly Telegraph Lines.

"The general direction of the work was intrusted to Sears C. Walker, Esq., Assistant of the Coast Survey. The peculiar apparatus was furnished by the Coast Survey; and in October, 1848, the work was commenced. I have now before me the full official report of Mr. Walker to the Superintendent of the Coast Survey, giving all the incidents and statistics of the work."

Prof. Mitchel then read several extracts from Mr. Walker's report, observing the close agreement of the results obtained by the same persons on successive evenings, or on the same evening by different persons or methods. After which he remarked that he should never forget the impression made on him by the night's work on the 12th of October:—

'Every thing being in readiness for the work, a message was received from Prof. E. Otis Kendall, Director of the Philadelphia Observatory, and the work proceed as follows:

Ph.—Are you ready for star signals?

Ci.—Yes.

Ph.—Look out for No. 539, B. A. C.*

Ci.—Yes, all ready.

Ph.—Star is in the field; look out.

Then came, at intervals of about a quarter of a minute, seven distinct signals or magnet beats, which we all heard at the Observatory, and compared with our standard time-keeper. Prof. Kendall had also recorded his magnet-beats by the time of his standard clock. These seven signals were the dates of the passage of this star over the meridian spider-lines of his transit instrument. Then followed the conversation:

Ph.—Did you get my star signals?

Ci.—Yes.

Ph.—I will send you three more stars.

Ci.—Ready.

After three more stars had been treated in the same way:

Ph.—Did you get the three stars?

Ci.—Yes.

Ph.—Then send me back all four."

Prof. Mitchel here explained that the fourth star had thus been observed at Philadelphia, and recorded at both places, before the first one had reached Cincinnati, when the reverse of the process just described, took place. Cincinnati gave the star signals, and both Cincinnati and Philadelphia recorded them at the same time. The process of computing the longitude from such an experiment, is very simple. The time that elapses on the standard clock, after the star passes the meridian of Philadelphia, and before it reaches Cincinnati, is the difference of longitude in time. Fifteen times that quantity is the geographical difference of longitude in arc.

Prof. Mitchel then handed to the Secretary, for publication, the official report of Mr. Walker to the Superintendent of the Coast Survey; which report will be found in the "proceedings of the American Association for the advancement of Sciences," for 1851, from which the foregoing is quoted.

Telegraph Unions.

The "Morse" and the "O'Rielly" Telegraphs, starting from Louisville, and running through the interior of the country to New Orleans, have been united, and the two interests are now merged into one for business purposes. Both Companies will undoubtedly profit by this arrangement, as the lines will be conducted with more economy and uniformity than was possible heretofore. James D. Reed, Esq., is superintendent of the lines thus necessarily consolidated.

The "Morse" and the "Bain" lines, between New York and Boston, have also united: not only the companies directly interested, but the public, will be greatly benefited by this and all similar arrangements. The union, in this latter case, extends to all the interests of both lines; and Henry M. Schieffelin, a highly esteemed merchant, is elected President of the "Union Company."

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* British Association Catalogue.

Telegraphing between Europe and the U. States—Restrictions in the British Provinces.

It would be difficult for any of us to forget the commotion excited two or three years ago, in consequence of the restrictive measures which some of the Eastern Telegraph Lines adopted in reference to the "Associated Press." For a time, there was a serious breach in the Lightning Lines, so far as the Press were concerned, and extra railroad locomotives had to be chartered, at great expense to the Editors, in order to transmit in that way from Portland, the despatches from Europe (via Halifax), which were refused transit over the Telegraph Lines between Portland and New York. It is also remembered that this was one of the stimulants which influenced Mr. O'Rielly to construct new lines under Bain's Patent, between New York and Portland, in which he was encouraged by the New York "Associated Press," the Editors in which Association were thus enabled to secure the uninterrupted transmission of their despatches by *Telegraph, the whole way* between Halifax and New York. So much for reminiscences on a subject that excited embittered controversy and unmeasured denunciation for considerable time.

Now for a later phase of a similar spirit! But we have at least the satisfaction of knowing *now*, that the difficulty lies not with any telegraph in the United States. The trouble at present is among Her Majesty's loyal subjects on the other side of the Provincial Line. The Nova-Scotia Telegraph, on which the difficulties occur, is said to have lately passed into the hands of a Company, of which MR. CUNARD (residing at Halifax), is President. We learn this with great satisfaction; and the public cannot doubt that that gentleman has too high a regard for his own reputation, to permit any abuse to remain long uncorrected, where he has the power (as in this case), to comply with the demands of justice. It cannot be possible that he and other distinguished gentlemen, who control the Nova Scotia Line, will permit the abuse to continue for a single day after their attention has been distinctly called to the subject, in the manner set forth in the following letter from Mr. O'Rielly to Mr. Cunard—sustained, as that letter is, by the document signed by numerous editors in behalf of themselves and their associates, in various cities of the United States. The subject is highly important to the business world on both sides of the Atlantic:—

Mr. O'Rielly's Letter to Mr. Cunard.

New York, Sept. 6, 1852.

Samuel Cunard, Esq.,
President Nova Scotia Telegrsph, Halifax.

Sir—At the request of parties representing the interests and feelings of a large section of the Press in the United States, I take the liberty to submit for your consideration, the complaints engendered by the alleged restrictions upon telegraphic intercourse over the Nova Scotia Line. As it is understood that that line has lately passed into the hands of a company over which you preside, I cannot doubt that immediate attention will be paid to remonstrances, which have, for some unknown cause, failed to secure even an acknowledgment from the former officers, to whom they were addressed.

One of the three memorials or remonstrances, which I now inclose you, emanates from and is signed by the editors and publishers of the Baltimore American, Baltimore Patriot, Baltimore Sun, the Republican and Argus, and the Baltimore Clipper.

The second is presented by Messrs. Abbot and Winans of New York; who represent themselves as agents for more than sixty prominent newspapers, between New York and New Orleans; and similar complaints were lately addressed to me personally, by one of the publishers of the New-Orleans Picayune. Messrs. A. and W., thus acting as agents for a large portion of the press, allege that they "have repeatedly, during a period of six months at least, endeavored to get over the Nova Scotia Line a despatch of steamer's European news *in season for use* by the respective journals they represent, and who depend on them for said news—but have, in every instance, failed;" "and, in several instances," it is further alleged, "the despatches have been refused transmission by the telegraphers at Halifax, even after the money had been tendered in pre-payment for them." And it is further charged by those agents, in behalf of the journals which they represent, that, "notwithstanding they are anxious to get independent despatches from Europe *via* Halifax, and have so expressed themselves often through their regular telegraphic agents, yet in no one instance have they been able to accomplish it so as to receive the news *in season to benefit them*, or, in other words, until the foreign news had been *published* by the favored parties—thus causing an entire loss of the money paid for such despatches." It is also alleged that all these difficulties are occasioned by the fact that the Nova Scotia Telegraph will "not send any other despatch of steamer's news, until the one for the *favored* parties is all transmitted and published—no matter if it is twenty-four hours after the arrival of the steamer."

The third remonstrance comes from Mr. John Wills, of Baltimore, long known as one of the most efficient news agents for the American press. Like Messrs. Abbot and Winans, Mr. Wills names many of the journals in whose behalf he complains of present restrictions, and asks only for *equal rights* in corresponding over the Nova Scotia Telegraph; so that despatches shall be sent over the line from Halifax in the order in which they are received from Europe, on the arrival of steamers at your city.

In addition to all the Baltimore journals, already named as speaking directly through their editors, Messrs. Wills and Abbot and Winans represent themselves as acting and speaking in behalf of the following journals—the general character of which renders it needless to mention more than their names, in evidence that the complaints with which those names are connected, are worthy of the respectful attention which I am sure they will experience at your hands. They are :—

The National Intelligencer and the Telegraph at Washington;
The Commercial Advertiser, the Evening Post and Evening Mirror, at New York;
The Picayune at New Orleans;
The Charleston Mercury, the Standard, and the Evening News, also at Charleston;
The Herald, the Beacon, and the Argus, at Norfolk;
The Argus, the Evening Journal, the Atlas, the State Register, the Knickerbocker, and the Express, at Albany;
The Gazette, at Alexandria;
The Inquirer, the Sun, the Evening Bulletin, the News, and the Pennsylvanian, at Philadelphia;
The American, the Patriot, the Sun, the Republican and Argus, and the Clipper, of Baltimore;
The Daily Advertiser at Newark, and the Times at Hartford;
The Register, the Journal and Courier, the Times, and the Palladium, at New Haven;
The Spy, and the Transcript, at Worcester;
The Herald, and the Transcript, at Boston;
The Whig, the Budget, the Times, and the Post, at Troy;
The Commercial Advertiser, the Express, the Courier, the Republic, and the Rough Notes, at Buffalo;
The Herald and the Gazette, at Utica;
The Journal and the Star, at Syracuse;
The Advertiser, at Auburn; and the Republican, at Binghamton;
The Daily Advertiser, the Democrat, and the American, at Rochester;
The Courier, at Lockport;
The Times, and the Journal, at Oswego;
Mr. Wills also represents himself as agent in part for, The Republican, at St. Louis; The Times, at Richmond; and the Pittsburg Journal; and indirectly for many newspapers obtaining news from what he furnishes to the establishments named.

In addition to this specific enumeration, Mr. Wills expresses his opinion that "*more than one half the newspapers in the United States* are supplied with Telegraphic news by himself and the several agents and correspondents with whom he is connected." And he adds :—"Any monopoly of the wires by any one party—any allowance of exclusive advantages, is viewed by all the papers I represent, as unjust in the extreme; and must, in time, tend to destroy confidence in the entire Telegraphic system. Open and fair competition is most desirable."

Such an array of remonstrants among the press was probably never before combined for the repression of any grievance; and, as they ask of the Nova Scotia Telegraph Company *nothing but equal and exact justice* in the transmission of despatches to them in the order in which they are furnished at Halifax, I deem it needless, in addressing you to add a single word beyond the simple presentation of the case—convinced as I am that your official and personal influence will be promptly used with the Nova Scotia Telegraph Company, to cause a change of the present rulers, and to insure to all journals and to all individuals the right of having their despatches transmitted in the order in which they are received—that the rule of "first come, first served," may prevail in your Province, as law and public opinion require it to prevail in the United States.

The circumstances will probably justify me in adding a word of explanation somewhat personal to myself, in connection with these Telegraphic arrangements and remonstrances. Unfortunate difficulties between the "Associated Press" and some persons connected with the eastern Telegraphs, caused such a schism, three years ago, that the Press were compelled for a while to hire railway locomotives for transmitting their despatches from Portland to New York, between which points the then sole Telegraph Line refused to transmit such despatches unless the Press submitted to restrictions which they pronounced unjust and inadmissible. This state of things, and the encouraging voice of the Associated Press, induced me to establish new lines (on which Bain's patent was used) between Portland and New York; since which time, I believe, no undue restrictions, and no exclusive privileges, have been allowed on the lines this side of Her Majesty's Provinces: and the same spirit which influenced me then, induces me now to comply with the request of a large portion of the American Press in asking that the Telegraph through Nova Scotia, like the gallant steamers which transmit the news between Liverpool and Halifax, shall "act like a common carrier—open to the use of all, upon equal terms"—"permitting no exclusive privileges to one party over another in the transmission of news"—a matter important alike to the European as well as the American commercial world.

Respectfully yours,

Henry ORielly.

(Referred to in the foregoing).

To the Directors and Proprietors of the Telegraph Lines extending from Halifax, N. S., to St. John, N. B., and connecting with Telegraphs in the United States.

Having been informed that the lines of Electro-Magnetic Telegraph, extending from Halifax, N. S. to St. John, N. B., and thence connecting with various telegraph lines in the United States, constantly permit *exclusive privileges to one party over another in the transmission of news*; we, therefore, take this occasion to express our decided disapprobation of this mode of managing and using any telegraph. We consider it fair and just that the telegraph, as a common carrier, *should be open to competition*, and to the use of all, *upon equal terms.*

Believing, therefore, that the public at large should be accommodated upon an equal footing by all telegraph lines and companies, and that monopoly by them, or the granting or permiting of exclusive privileges to one party over another, is not only contrary to the declared intention of the inventor, but adverse to the spirit of the age and to the course of strict justice—entertaining these opinions, we hereto subscribe our names, hoping for a speedy remedy of the evil, and that we may be enabled to obtain dispatches direct from Halifax, or from any other point, such as we may desire, either individually or through our authorized agents, upon *an equal footing* with any other party or parties. Respectfully Yours,

DOBBIN, MURPHY, & BOSE, *of Baltimore American.*
ISAAC MUNROE & Co., *of Baltimore Patriot.*
A. L. ABELL & Co., *of Baltimore Sun.*
BULL & TUTTLE, *of Baltimore Clipper.*
RICHARDSON, CLOUD & HOPE, *Republican and Argus.*

As telegraph agent and correspondent for the Baltimore papers, and a large majority of the Southern newspaper press from Baltimore to New-Orleans, including the principal papers of Washington, D. C.; Richmond and Norfolk, Va.; Charleston Courier; and other papers in Charleston and the South, receiving news through me from the Courier, and the Picayune, New Orleans,—I feel justified in their behalf, in stating that it is their desire to have *all telegraph lines thrown open to honorable and fair competition.*

Fully sensible of the justness of the remarks set forth in the foregoing petition, and of the universal desire of all newspaper publishers, for whom I act as agent and correspondent, that the *telegraph should be open to all*, upon *an equal footing*, I therefore cheerfully commend the foregoing petition to the consideration of those concerned.

I speak also on behalf of a large portion of the Western press, for whom I act as agent and correspondent. JOHN WILLS.

(Abbot and Winans' letter is of similar character.)

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The "Associated Press" and the Telegraph

We notice, in the New-York Herald, of the 21st August, an article upwards of a column, headed "False Telegraph News," condemnatory of all persons who pretend to procure Foreign intelligence via Halifax, in advance of, or *as soon as*, the Agent of the "Associated Press." The Herald says, in reference to such persons:

> "Now, these parties have never received, and they *cannot receive*, a single word of news over the Halifax wires, from the time the steamer is signalled off Halifax until *after the receipt, by the associated press of this city, of their despatch of three thousand words.* Nor can any other party, under any but the most urgent necessity, and then only with the consent of the Association. Any one, therefore, who professes to have received the foreign news via Halifax, in advance of, or even simultaneously with the Associated Press, may be safely put down as a cheat."

This, we presume, is all true; and, under such circumstances, the Herald's article, denouncing parties falsely claiming to get early intelligence, is right and proper. But we say, at the same time, that the arrangement of the "Associated Press" with the Halifax (Nova Scotia) Line, is decidedly wrong and improper, and susceptible of gross and dangerous abuse. It is an arrangement which, if both the parties resided in the United States, would be *illegal*, and the courts, or legislatures, would deprive any company, entering into such a bargain, of its charter. It gives extraordinary *privileges* to certain parties, and curtails the *rights* of others, and can only be justified, if at all, on the plea of urgent necessity.

No such necessity exists! On the contrary, this arrangement opens the door to the very frauds, in news, of which the Herald, Tribune, and other members of the "Association," so justly complain.

Let us look for a moment at the way in which the matter might work. The foreign news comes to the agent of six papers in this city, and to no other person. For satisfactory reasons, it is sometimes retained in his hands quite a number of hours before publishing.—Now, during this interim, *what is to prevent this Agent from corresponding with cotton and provision dealers in distant cities, and posting them up on foreign prices, a little* in advance of the newspapers? He, or any of his clerks or associates, could easily do it in a "cypher" that no one could detect, and might realise something handsome by so doing.

Now, we do not mean to intimate that anything of the kind *has* been done. Yet it is one of the abuses of which this system seems to be capable. But, admit the agents of the "Association" to be always persons above suspicion or corruption—even then there is opportunity, which would not otherwise exist, for unprincipled persons to fabricate "false news."

Suppose the Nova Scotia wires *were free to be used by all:* the result would be, that a large number of respectable papers, which do not choose to be connected with the "Associated Press" of this city, would have their agents at Halifax, and the *true* intelligence would be sent, without stopping at New-York or anywhere else, from one end of the country to the other, wherever ordered, and the occupation of "news fabricators" would be gone.

Gentlemen of the "Association!" THE TELEGRAPH SHOULD BE OPEN AND FREE TO ALL—*giving peculiar privileges to none;* and yourselves preached this doctrine strongly enough when you thought "Smith's bull" was disposed to gore your ox.

☞ We have not believed, and do not now believe, that the editors of the distinguished journals known as the "Associated (morning) Press of New York," will, when their attention is distinctly called to the subject, sustain a practice in Nova Scotia inimical to the principles which they successfully asserted against similar restrictions when practiced against themselves on telegraph lines this side of the British boundary.

◆

Communication Across North America.

Scarcely an intelligent man could be found in the Union who does not consider it one of the most important duties of our Government, under existing circumstances, to provide for the establishment of a safe route for travelers and settlers through the vast public domain between the Atlantic and Pacific States,—which route would immensely facilitate the transmission of intelligence by Mail and Telegraph: Yet Congress has again adjourned, without having acted finally on the bill for that purpose. This bill, it will be recollected, was introduced by Judge Douglas, Chairman of the Committee on Territories, in accordance with the memorial of Mr. O'Rielly. It was referred back to the Committee for amendment, and will doubtless be approved by Congress during the approaching winter. The act would be hailed with acclamation throughout the land.

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VARIOUS USES OF THE TELEGRAPH.

(From the St. Louis Letters of the Hon Wm. B. Maclay, late M. C. from New York.)

I. Telegraph for Military purposes.

The earliest uses to which the great Western Telegraph lines were put, were connected with the equipment of troops for the Mexican war. The first dispatch which crossed the Alleghany Mountains by lightning, was on the 30th of December, 1847. Gen. Bowman, Adjutant General of Pennsylvania, was requested by Mr. O'Rielly to make the first use of the newly constructed line, which he did by a congratulatory dispatch to the President of the United States, informing him of the promptness with which the troops were collected and embarked from Pittsburg for the seat of war. The *Washington Union*, the organ of the then administration, announced the almost instantaneous reception of the dispatch, as marking one of the most important epochs in the history of improvement. In connection with this allusion to the war with Mexico, I may mention a fact, which made a great impression upon my mind at the time, as evincing the passion for military glory that exists in our Republic. Within 30 days after Congress passed the act, authorizing the President to accept the services of 50,000 volunteers, more than 200,000 had offered themselves.

In all the movements for the mustering and marching of these volunteers to that war, the telegraph was a most useful agent; as, not to multiply too many instances, when the Executives of some of the States, or other public officers, as in Ohio, entertained doubts in regard to their powers to provide for the equipment or maintenance of the troops newly enlisted, no long or embarrassing delays occurred, but dispatches were at once sent to and received from the seat of government.

II. Astronomical use of the Telegraph.

In the promotion of science the telegraph has proved equally serviceable. Amid the difficulties by which Mr. O'Rielly was beset in extending the lines to and beyond Cincinnati, he would not allow his men to leave that city until they had run a connecting link of posts and wires to the Astronomical Observatory on Mount Adams, so that the benefits of the telegraph might be immediately enjoyed by all interested in Astronomical researches. And it is worth a journey to Cincinnati to witness the beautiful manner in which the telegraph apparatus is employed by Professor Mitchel and his accomplished lady, in the sublime science in which her husband's name is so widely renowned. Those who have heard or read his lectures on Astronomy, will doubtless readily recollect his statements concerning the incalculable value of the telegraph system in expediting the labors of Astronomers; and it is but justice to that distinguished *savan* to add, that the telegraph apparatus which he himself devised, and which is thus successfully used, for *recording* the observations made by himself and his wife instantaneously with the transit of the heavenly bodies through the field of vision embraced by their instrument, has conferred an immense service on the cause of Astronomy—a service that is recognized by Astronomers in the Old World, as well as in our own country. Let no one pass through Cincinnati without enjoying the wonders of the Astronomical Observatory—prominent among which is the telegraph apparatus devised by Professor Mitchel for *telegraphing the heavens.*

III. Meteorology and the Telegraph, as connected with Commerce.

In Meteorology, as well as in Astronomy, the telegraph is proving itself highly interesting and valuable. The many frightful disasters by storms along our coasts, strongly enforce the propriety of extending the telegraphic arrangements, for commercial and nautical purposes. Were telegraphs in operation generally along the prominent points of our coasts, connected with an appropriate system of signals on board of vessels, how much of life and property might be rescued from destruction! The "law of storms" is now so well understood, (as stated in one of Mr. O'Rielly's circulars about extending the Telegraph along the coast for commercial and marine purposes), that if instantaneous intelligence be communicated respecting the commencement of a gale at Savannah or Charleston, for instance, preparations might be made to protect the shipping along the northern sea-board by warning vessels on the coast, through the instrumentality of the Electric and Semaphoric (or signal) telegraphs, or by dispatching steamers to succor shipping near the Bays of Delaware and Chesapeake, the harbors of New York and Boston, the entrance to Long Island Sound, and other commercial points. For instance, it may be noted that a certain disastrous gale was not experienced at Baltimore till about twenty-four hours after its ravages at Charleston; and at Philadelphia, New York, Boston, and other places, on the sea-board northward, the storm was not felt till some hours later on Saturday night or Sunday morning. A twentieth part of the money sunk by damages to shipping, aside from the extensive loss of life, at and near those ports in this single storm, would probably be sufficient to establish "signal stations" at the various capes and harbors most frequented by shipping on the northern seaboard—by which signals, vessels hereafter might be warned to prepare themselves on the approach of hurricanes—these signal or flag stations, being connected with lines of electric telegraph now generally existing along or near the coast. As a measure of defense alone, such a line of telegraphs would be valuable in spreading alarm or causing the concentration of troops or war-ships in cases of danger. It would enable commercial men and the government to have almost instantaneous intelligence concerning shipping of all kinds passing within range of our coasts—an object important in peace as well as in war—an object which, when accomplished to any extent, will aid in securing many advantages and averting many losses to the commercial world.

"Telegraphic Lies!"—and the Newspapers

While we endeavor to urge the Telegraph Companies to render all proper facilities to the Press and the Public, we are constrained to say that "The Telegraph" and The Telegraphers have just cause of complaint against the looseness with which some of the Editors allude to the erroneous reports frequently published by the Newspapers under their Telegraphic captions. As a specimen of this unintentional injustice, we quote a paragraph from the National Intelligencer, which said on one occasion,

" A worthy Representative in Congress from New York has moved an inquiry into the expediency of regulating, by law, the transmission of intelligence *by Telegraph.* The subject is one well worthy of inquiry; and if it had no other object than to prevent *the Telegraph* from daily deluging the country with willful and mischievous falsehoods, it would be well worth a week's time of Congress to accomplish it. Our attention is at this moment drawn to the subject by the following, which we have just read in a New York paper:" &c., &c. "The next story will be, as likely as not, that it is *said* that the President has ordered a hundred or two barrels of gunpowder to be placed in the basement or cellars of the Capitol, in order to blow up both Houses of Congress!"

And on another important occasion, the Intelligencer remarked that

"Some *Telegraphist* in this city, probably for want of substantial material for a news dispatch, has given circulation through distant newspapers to a story of a misunderstanding having occurred in the Cabinet, followed by a request from the President to one of its members to resign his office. It is scarcely necessary for us to say, to prevent well-informed persons from being imposed upon, that the whole story is a sheer fabrication. There is not a particle of truth in it."

☞ We select the National Intelligencer, because our respect for its distinguished editor renders us most certain that the spirit which influences us in this criticism will be properly appreciated, and that the influence of the Intelligencer may be exerted to prevent others from using such erroneous expressions as that Journal (model as it is in all newspaper proprieties) employs in this case.

As well might the Post-office Department be denounced for serving as a "common carrier" in transmitting the multitudinous fabrications with which the "Washington correspondents" of sundry Newspapers daily edify the world, through the medium of Uncle Sam's mail-bag.

People's Line,

Between Louisville and New Orleans, via Nashville, with branches to Memphis and Vicksburg. This Line, constructed by Mr. O'Rielly, now works in harmonious "business arrangements" with the Morse Company between the same points—the Union giving more *certainty* to telegraphic operations on that important route. (The name of the Morse Company is the New Orleans and Ohio Line; of which Mr. Tanner, of Frankfort, is President, and T. P. Shaffner, Secretary.) The "People's Line," has for President, Henry H. Forsyth; and for Secretary, Dr. T. S. Bell; both of Louisville. James D. Reid, by amicable arrangement between the two companies, is Superintendent of both—which, though working thus together, preserve as yet their respective organizations.

By the unions thus effected (the same Superintendent acting for other Lines on this vast interior route between New York and New Orleans), much improvement is made, and more should be made, in expediting the transmission of dispatches between those important points.

Extension of the Telegraph in Foreign Countries.

The impetus which the successful introduction of the Telegraph in America, has given to the establishment of Lightning Lines in various foreign lands, is worthy of attention; and the particulars will be attended to in future numbers of the "Telegraph Magazine." At present, we can merely name a few of the enterprises with which some of our Yankee brethren are "astonishing the natives" in foreign lands.

Mexico, indolent and lethargic in most matters, is now encouraging the extension of Lines to connect some of her principal commercial cities with the political capital. Senor de la Cuesta and Senor Granja, are among the principal promoters of the enterprise—both gentlemen well known to some of our fellow-citizens. Mr. David Brooks, chief Telegrapher of the O'Rielly Lines between Philadelphia and Pittsburg, and Mr. Jacob Campbell, who worked for several years in building and repairing that range of Lines, were employed to construct the Lines between the cities of Mexico and Vera Cruz—about which and other Lines in Mexico, we will give particulars hereafter. Mr. Brooks has returned to his former station in this country; but Mr. Campbell continues in Mexico, at the work of constructing Lines in various directions—about which, a letter from him is now before us. We have now some hopes for Mexico, seeing even the slight improvement indicated by a dispatch now before us, with the caption of "Telegrafo Electro-Magnetico, entre Mejico, Nopalucan, y Vera Cruz."

A Company is formed, with an apparent capital of $50,000, as stated in an advertisement, to construct a Telegraph Line between the new city of Aspinwall, on the Atlantic, and the old city of Panama, on the Pacific—along the Railroad. Although the route is short and easily passed over by Railroad, the Telegraph will be occasionally of much convenience to passengers, and will be worth all it costs, for convenience of the Railroad Company alone. J. L. Stevens, the celebrated traveler, is one of the Trustees of the Company, and Mr. Aspinwall another. Mr. Aspinwall has the distinction of being not merely a man of great energy in the commercial world, but the *namesake* of the first city of Spanish America that was christened in honor of a Yankee.

We find a paragraph afloat, respecting "American Enterprise in Sweden," stating that Mr. William Robinson, of New York, has obtained the privilege for 50 years, of erecting and managing lines of magnetic-telegraph in the united kingdoms of Sweden and Norway. A company is said to have been formed, including some capitalists of New York and Stockholm; and the work of erecting the lines is at once to be commenced. It is added, "There is reason to expect that a similar privilege will be obtained from the government of Denmark; and in all it is expected that some three thousand miles of telegraph communication will be conferred on the Scandinavian peninsula by Yankee enterprise."

In this, as in other matters; particulars will be given as they reach us.

A Genoa letter in the Newark *Advertiser* says, "The telegraph line now in operation between this city and Turin, is to be extended forthwith over the Alps and through Savoy to the French frontier, by order of the Government. This will bring us into the direct line of telegraphic communication with Paris and London; so that, the first day of the next year, we may be able at will to feel the beatings of the public pulse in the great cities of the modern world, and communicate with you across the Atlantic in less than ten days! The mere conception of the thing has had a sensible effect upon the public spirit here, and the people, rousing from the lethargy of ages, talk of nothing but 'progress.' The city is undergoing a thorough change for the better, in anticipation of the 'good time,' which the railroads and telegraphs, now rapidly progressing towards completion, are to introduce. Among other things done, the city authorities have just appropriated 225,000 francs for converting the splendid old Ducal Palace—a sumptuous monument of feudal splendor—into useful and productive property. Several narrow streets are to be widened—large new docks are in progress—blocks of huge buildings, for residence or trade, are going up, &c. Distinguished engineers have been commissioned, moreover, to inquire into the practicability of the project for running *a submarine telegraph* from the port of Spezzia, the U. S. Naval Depot on this coast, to the Islands of Corsica and Sardinia, and *thence to Alexandria*, or some other point on the coast of Africa. The man may be now living, who will see London and Calcutta, Canton and New York, daily responding to each other. Greater wonders have actually been wrought by these fiery children of the age. The contracts have been made by the Government at Turin, with an English Company, to complete a railroad to the Mount Cenis pass of the Alps within two years. The track between this and the capital will, it is hoped, be completed in all this year. Five other railways are now in the course of construction in other parts of the kingdom."

A review of the origin and progress of the Telegraph in Great Britain, which we are promised from a writer who is practically familiar with the subject, will be read with particular interest, as showing the points of difference between the modes practiced in that country and America.

Even in India—an empire which British energy and British gunpowder are rapidly civilizing and Christianizing—the electric telegraph will soon be extended hundreds and thousands of miles—connecting those "remote regions" directly in correspondence with the Home Government in London. The gentleman who has the matter in charge for that country, appreciating the importance of the enterprise, and desiring to avail himself of all possible information on the subject, contemplates visiting this country, for the purpose of personally examining the different American telegraphic inventions; some of which he will certainly find to be much superior to those invented in Europe. We hazard little in predicting that an American telegraph will be adopted in the Indies.

The extension of telegraphs in India is under the patronage of the British East India Company, whose agent for the purpose is Dr. O'Shawnessy, one of their Medical Staff—the gentleman who is said to intend inspecting the Telegraphs in the United States.

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Practice Illustrative of Theory.

The operations of the Telegraph System have thrown correct light upon some electrical matters which were previously misunderstood. A truly wise man is never ashamed to seek information where it may be sometimes found—in the conversation and practice of persons in comparatively humble circumstances, whose practical knowledge in every-day transactions enables them to demonstrate facts without pretending to philosophize about the causes. Several gentlemen of the Telegraphic corps can furnish us, and we trust they will furnish us, with notes of their experience, in cases where that experience corrects theories commonly entertained. We are told of an instance where, in a recent legal inquiry, one of the most distinguished men in the scientific world (whose name was known and honored in Europe even before it was well known to the great mass of his own countrymen in America), was corrected, and frankly acknowledged the correction, by a Telegrapher, whose practical knowledge of Telegraphic operations furnished evidence contrary to the theory which that eminent scholar entertained in common with other prominent Electricians. In this and all other cases, we hope to be furnished with the facts by our Telegraphic friends; and the statements will quicken the spirit of investigation, which spirit is too often repressed by the overshadowing influence of ancient and ill-founded dogmas.

Progress of Business Connected with the Telegraph, &c.

It is pleasing, as an evidence of our progress and prosperity, to find, that pursuits which were mere branches of business, are now extended—grown to independent and vigorous self-existence. The manufacture of electrical and photographical apparatus, for instance, was, not many years since, a mere department of the business of the chemist or optician. Now we have several warehouses for the exclusive sale of Daguerreotype materials; and the Telegraph demands its own exclusive and extensive manufactories and warehouses.

Though understanding the probable and increasing demand for telegraph material, we were surprised, on a visit to the establishment of Mr. J. W. NORTON, of this city, to find that his admirable and extensive arrangements for supplying the wants of the telegraph community were barely adequate to the present demand.

At his store, No. 177 Broadway, we were shown all the arrangements for erecting lines in any part of the civilized or uncivilized world—insulators of various shapes, designs, and material—tumblers, high and low, on three legs and on no legs—battalions of zincs—an army of different sizes of porous cups—miles of paper and leagues of wire; yet, of those beautiful instruments, of which we had heard, we saw very few. But we were told that their visit to the store was always transitory, and that the last had just been shipped. Of their appearance and working power, we could judge, however, from a set arranged to connect with a line running to the factory, which line, it will be perceived, affords peculiar facilities for the *practical* testing of every register and magnet sent out. We made use of this "always reliable" line, to signify to the superintendant of the factory our intention to visit him, that we might inspect the anatomy and analysis of those instruments whose physiology had given us so much satisfaction. After some time, we found ourselves in the midst of a fine new building devoted to manufactures and machinery of all kinds, in this line of business. When we had somewhat recovered from the effect of the whirring, buzzing, stamping, planing, punching, and filing, Mr. Charles T. Chester, the obliging superintendent (whose scientific attainments, and mechanical knowledge are too well known to require commendation from us) shewed us the machines in their progress, from the rough castings and boards to the highly-polished rosewood-mounted instruments, which it seemed a desecration to touch.

Each man had his particular branch, and we noticed 23 instruments all gradually approaching the last and finishing touch. We noticed in the finished machines several improvements and novelties which telegraphers will appreciate. The holes were all bushed with a patent and hard metal. The paper guides were armed with steel to prevent the wear of the constant motion of the paper. The pen-lever spring was entirely novel, compact, and beautiful. The pinions and bearings were long, yet the machine ran so easily that it seemed to go without weight. Among the novelties, our attention was called to a new battery of Mr. Chester's, which had been in use several weeks without any replenishment of acid on the store and factory line. Its peculiarity consisted in dispensing with nitric acid and local action; and, what was still more desirable, it could be taken to pieces and renewed without stopping its action. Another battery for use at sea, arranged to work in any position, was a new thing to us. We were shewn instruments destined for Australia, and others for Asia.

The hotel enunciator, in its construction, was another interesting thing. This is an arrangement by which each and every room in a hotel is connected telegraphically with the book-keeper's office. Its effect is similar to the mechanical enunciator, but acting by electricity, doing away with the complicated and easily broken wire pulls, and saving much expense in construction.

We saw a register constructed to run without weight, spring, or train. In the laboratory and chemical department, we saw many interesting and beautiful things—gold, silver, and platina in every shape and solution; and some very highly finished beautiful work. With such facilities none but the best chemicals are furnished by Mr. Norton.

In the rear of the factory, we were shewn a hospital and museum for veteran, diseased, and defunct telegraph instruments; and every variety of form, size, and principle, had there its representative—huge magnets, corpulent and unwieldy registers like churches, permanent magnets, connectors, electrical organ-players, and other curiosities. We observed among the magnets some desperate cases of paralysis from a stroke of lightning.

From what we saw, we were well convinced that it is Mr. Norton's intention, assisted by his accomplished coadjutor, to supply the demand for all sorts of Telegraphic instruments, and to supply them of every variety and price; to bring forward several improvements and novelties, now in embryo, and to improve the unequaled facilities he has of doing everything for the telegraph community that can be demanded, "in his way." He is worthy of encouragement.

Be Just, and Fear Not!

A few words of general applicability respecting moral and political action, may not fall unheeded or uselessly among the thousands who read these pages, with reference to particular matters of business. It happens occasionally that the course of life is influenced essentially by the words or thoughts struck out accidentally by contact with the wayfarers or roughnesses on the highway of life. A corner of this Magazine will occasionally be occupied with remarks from men who speak what should be long remembered.

In a recent oration at New York, the orator, while he earnestly exhorts all to press onward in the work of justice and reformation, holds up no false allurements. On the other hand, he gives a vivid picture of the rough and thorny path which the honest and devoted political reformer must tread. What he must encounter, is but too truly shadowed forth in the following passage:

"His motives will be misconstrued, and his actions misrepresented by the enemies of popular freedom. The unsound, the selfish, and dishonest of his own political party will band against him, and seek to accomplish his overthrow. The shafts of falsehood, of calumny and detraction, will hurtle around his devoted head like hail; and without the interposition of more than mortal power, the daggers of the moral and political assassin will drink the life-blood of his hopes and of his reputation. But let him shrink not—falter not—for his cause is just—and God is just."

Pursuing still farther this train of remark, the orator pays the following well-deserved tribute to departed worth, and recalls a name which will be cherished by the friends of truth to the end of time:

"Do you require that I should point you to an instance within your own direct and immediate knowledge? I would refer you to the fate of the talented and lamented LEGGETT.—You all remember with what condensed asperity and refined malignity that noble and chivalric champion of the rights of man was assailed by the combined aristocracy of both political parties. And you remember, too, with what supreme and bitter contempt he regarded their slanders and their threats; and how, with the lightning lash of his pen, he scourged the voracious and wide-mouthed pack back to their kennels. His memory will ever be hated and reviled by the foes of equal rights; and ever honored and revered by the friends of humanity and freedom—a far more desirable and enduring monument than the marble structure which the pious gratitude of his friends and admirers erected to his memory."

The "People's Highway" between the Atlantic and Pacific States.

In presenting our readers with an appendix to this number of our Magazine, containing the Memorial and other documents respecting the proposed "System of Intercommunication by Mail and Telegraph along a Military Road through our own territories, between the Atlantic and Pacific States," we quote a communication from the Journal of Commerce, including some remarks of President Fillmore and Senator Douglas, concerning the character and importance of the proposal. The writer in the Journal says:

"Any system of policy which proposes to accomplish such desirable results, demands prompt consideration from the press, the people, and the government of the United States. It may be well said concerning any *practicable* scheme of this character, that, "in its manifold and immense influences, it may challenge comparison with any system of policy (aside from questions of personal liberty and national independence) now under discussion in this confederacy, or any other nation of the world."

The recent remarks of Senator Douglas, on presenting O'Rielly's Memorial to the Senate, as we find those remarks reported in the Washington Union, should be published widely, for the purpose of rendering the community generally more familiar with the system of policy which was thus formally presented for the consideration of Congress. The brief telegraph report was not sufficient to convey a clear idea of that policy in its various branches. Even the remarks of Judge Douglas might be greatly extended in giving a *full* outline of the subject in its manifold and important bearings on the social, commercial, agricultural and political welfare of the American people.

A chapter might be advantageously devoted to a consideration of "the influence which such a simple and economical letter-mail and telegraph system *across our territory*, would exert, not only upon the settlement of the vast Western wilderness, but in revolutionizing the correspondence of the world, as well as in promoting the perpetuity of the American confederacy."

"If we cannot bind the Pacific States to us by roads, railroads, and telegraph lines," said President Fillmore, in reference to this project, "we may soon see them setting up for independence." * * "The 'home tie' which binds the Californian to his native State on the Atlantic," continues the President, "will grow weaker every day; and a new generation will soon arise, that know not *the East;* and *then* the *only bond of union* will be a *common country*, and a *common glory*, and a *common interest*, that can only be *equaled* by a free and uninterrupted communication from the seat of government to every part of this wide-spread republic."

Thus much by way of introduction for a subject to which we shall occasionally recur.

In annexing the remarks of Judge Douglas, attention may be properly invited to some of the passages *in italic*, which indicate the extent to which O'Rielly's project has been approved for several years, in quarters (like the St. Louis National Convention) that may be supposed to be best informed respecting the vast regions which it is proposed to bring quickly within the jurisdiction of "lightning" and civilization. "The scheme of Mr. O'-Rielly," says the report published by the General Committee of that Convention, "is admirably adapted, *in every aspect in which it can be considered*, to the production of beneficial results."

Now for the remarks of Judge Douglas. In addressing the Senate, he said,

"Mr. President—I have been requested to present to the Senate the memorial of Henry O'Rielly, proposing *a system of intercommunication by mail and telegraph along a military road through our own territories, between the Atlantic and Pacific States*—being the plan approved by the St. Louis National Convention in 1849. I will state, in presenting this memorial, that Mr. O'Rielly has had great experience in the establishment of telegraph lines in the United States, especially in the Southern and Western States; and he now proposes to establish a line of telegraph from the western border of our present telegraphic operations upon the Mississippi River, to the Pacific Ocean. He asks no appropriation—no money or land—from the Government of the United States. He asks no donation—no grant, no gift of any kind. He only asks to be protected along the line, so that his communication can be kept up; and suggests, in his memorial, that, inasmuch as the present laws provide for a line of military posts from the Mississippi Valley to the Pacific, these posts might be so arranged that they could protect the telegraphic communication that he proposes to establish along that line. The suggestion is, that instead of establishing a large number of men at a few posts, we may reduce the number of men at each post, and establish a larger number of posts; so that they shall be twenty miles apart, and only twenty men at each post. He thinks a small number like this might keep up the communication along the line.

"He also suggests in his memorial that these men along the line may be made the instruments of carrying the mail, which might be sent along from post to post; and thus they could carry your mail at the same time that they were accomplishing the other object of protecting this extensive line of communication and the emigrant route. The object of the memorialist, however, is merely to establish the line of telegraph; and *he suggests*, in connection with that, *these other advantages which would result from it.* He suggests, also, in connection with it, that the establishment of a line of posts, and throwing the line open to settlement, would encourage a system of emigration, so that it would soon become numerously settled: this other consideration, however, is merely incidental, and may be adopted by Congress or not. All he asks is to establish a telegraph line from the Mississippi valley, where the wires now terminate, to the Pacific, and to be protected by the military posts, so that he can effect a communication in that manner, for the benefit of the government and the country at large. I will state that this same plan was laid before a *National Convention in St. Louis, in* 1849—the railroad convention—and *received their approval.* It is the *firm conviction of all those living in the Mississippi valley* and *all intelligent men who have directed their attention to the subject*, that this line might be well protected, and *thus a line of constant communication kept up between the Atlantic and Pacific shores.* The memorial states, that by this line, within two years from this date, we should be able to deliver the *European news* upon the banks of the Pacific *within one week from the time it left Europe.* I move that the memorial be printed for the use of the Senate, and referred to the Committee on Territories,"

"The President—It will be so referred, and the motion to print will go to the Committee on Printing."

"Mr. Borland—I would suggest that it be ordered to be printed now. There is no doubt but it is a matter of interest; and the Committee on Printing would undoubtedly report favorably upon the proposition. I hope it will be ordered to be printed now."

"Unanimous consent being given, the memorial was ordered to be printed."

Telegraphing and Telegraphs in Europe and America.

In our next number we shall present to our readers an article on the actual condition of the "art telegraphic" in Europe and America. We may anticipate an inference that our readers must draw from the facts that we intend presenting to them on this subject, by saying that the inventive genius of the Old World has produced nothing in the way of Telegraph instruments at all equal, for practical purposes, to the achievements of our own countrymen in that department of science and art.

American Printing Presses—"Westward Hoe!"

There is scarcely an improvement achieved by American genius, more remarkable for its effects upon the every-day life of society, than that furnished in the history of Yankee operations with the Printing Press. No one can properly estimate the greatness of this improvement who is not familiar with what the Press, as a machine, was, some thirty odd years ago, when Samuel Rust relinquished his place as a journeyman printer for the purpose of carrying out his improvements in the hand-press; and even the knowledge of what existed *then*, will form a very inadequate guide for his judgment, unless he is fully advised of the *latest* improvements of that "wonder-workynge" genius, Col. Hoe—in whose honor a festival, well deserved, was given last year at the Astor House. We have materials for a full retrospect of the progress of improvement in these matters; and even if the Press and the Telegraph were not so closely connected as they are, the history of American Printing machines would be entirely germane to the broad view of "improvement" which we propose to indulge through the pages of this Telegraph Magazine.

Meantime, any one who has curiosity enough to see one of the greatest wonders of the mechanical world, should not resist the invitations given by the respective editors to visit the press-rooms of the "Sun, Herald, and Tribune." As for the Colonel himself, he may be daily seen, where his example is an incentive for all of us, young or old—up to his eyes in business, at his factory, turning out his "Lightning Presses" with characteristic energy, for almost all quarters of the civilized (newspaper) world.

Lessons in Enterprise, Economy, and Perseverance.

While sundry public journals are glowing with descriptions of the successful enterprises, immense resources, and magnificent homestead of Mr. Barnum—on which latter subject, the editors are particularly eloquent, in view of the hospitalities of which they had been partakers at a recent fete in his splendidly furnished villa of Iranistan—we quote a brief chapter of his life, as contributed by him to "Freedly's Treatise on Business," for the purpose, not of exciting envy at his wealth and splendor, but of stimulating the attention of young and old towards the spirit of enterprise, economy, and perseverance, so signally illustrated in this morsel of autobiography:—

"In 1841 I purchased the American Museum in New York *without a dollar*, for I was not worth a dollar in the world. But I was *never disheartened.* I always felt that I could make money fast enough, *if I only set my mind to it.* I remember meeting a friend in Broadway a few weeks before I came in possession of the Museum. 'Well,' said I, 'Mr. A., I am going to buy the American Museum.' 'Buy it!' said he, for he knew I had no property; 'what do you intend buying it with?' 'Brass,' I replied—'for silver and gold have I none.'"

"It was even so. Everybody who had any connection with theatrical, circus, or exhibition business, from Edmund Simpson, manager of the old Park Theater, or Wm. Niblo, down to the most humble puppet-showman of the day, knew me perfectly well. Mr. Francis Olmsted, the owner of the Museum building (now deceased)—a noble, whole-souled man as one often meets with—having consulted my references, who all concurred in telling him that I was a "good showman, and would do as I agreed," accepted my proposition to give security for me in the purchase of the Museum collection—he appointing a money taker at the door, and crediting me, towards the purchase, all the money received after paying expenses, allowing me fifty dollars per month on which to support my family, consisting of a wife and three children. This was my own proposition, as I was determined so to live, that six hundred dollars per annum should defray all the expenses of my family until I had paid for the Museum; and my treasure of a wife (and such a wife is a "treasure") gladly assented to the arrangement, and expressed her willingness to cut the expenses down to $400 per annum if necessary.

"One day, some six months after I had purchased the Museum, my friend Mr. Olmsted happened in at my ticket-office at about 12 o'clock, and found me alone, eating my dinner, which consisted of a few slices of corned beef and bread that I had brought from home in the morning. 'Is this the way you eat your dinner?' he inquired—'I have not eaten a warm dinner since I bought the Museum, except on the Sabbath,' I replied; 'and I intend never to eat another on a week-day until I get out of debt.' 'Ah! you are safe, and will pay for the Museum before the year is out,' he replied, slapping me familiarly on the shoulders; and he was right, for in less than a year from that period I was in full possession of the Museum as my own property; every cent paid out of the profit of the establishment. Had I been less economical, and less determined, my expenses would have kept pace with my income; I should have lost much valuable time in going home every day to my dinner; and my present situation would probably have been very different from what it is."

Another and equally emphatic lesson is inculcated by the career of the venerable MOSES Y. BEACH, who lately resigned the New York "Sun" newspaper establishment to his son, M. S. Beach, and who has now retired to the same town (Bridgeport) with Mr. Barnum. The Journal of Commerce, not addicted to flattery, said, in reference to the course of Mr. Beach and the Sun,—"There has never been an instance in this country, nor we presume in any other, of so great success in a newspaper enterprise, in so short a time. Fourteen or fifteen years ago, Moses Y. Beach, then a poor man, purchased the Sun *on credit*, it having then but just risen. From that moment, it went ahead with astonishing rapidity, and now he retires with an independent fortune, leaving his sons to enrich themselves by the same means. Here is encouragement for young men, even those who have been unfortunate, as Mr. Beach had been. *Try again—better luck next time.* From what we know of the sons, we believe the good qualities of the paper will be fully sustained under their management."

A truce in Lightning Warfare

The Hon. Amos Kendall, the General Agent of Messrs. Morse and Vail in the ownership of three-fourths of Morse's Patents, transacts all business concerning those patents, in the names of those gentlemen, to the extent of their respective interests. He resides in Washington.

The Hon. Francis O. J. Smith, owner of the remaining quarter of Morse's Patents, resides at Forest Home, near Portland, Maine,

By a "division of territory," made between the respective parties in June, 1847, the interests of the patents south of the Ohio River. &c., were committed to Messrs. Morse and Vail, and are managed by their agent Kendall, who also shares with them to a certain extent in the ownership or avails of the Patent. The patentee interests northward of the Ohio, &c., were committed to Mr. Smith; and Mr. S., acting under this power, settled the difficulties growing out of what is generally known as the "O'Rielly contract," by a new arrangement made on the 2d of December, 1851. The original contract between O'R. and the Morse Patentees, was formed on the 13th June, 1845.

The new arrangement substantially ratifies all the lines constructed by Mr. O'Rielly within the vast range of the original contract—Mr. O'Rielly giving his power of attorney to the Morse assignee to collect the large amount of stock (one quarter of the value of the lines) and all the dividends thereon, which he had uniformly reserved in trust on all those lines to enable him to fulfil his contract whenever the difficulties should be settled. And in addition to this, all lawsuits between the parties under the old contract, are discontinued; while to Mr. O'Rielly is conceded, on certain conditions, the exclusive right to establish lines under Morse's patents in most of the regions north and west of the Ohio.

It is to be hoped, for the sake of the public as well as for the welfare of the parties more directly pecuniarily concerned, that the money and energy hitherto spent in lawsuits, may hereafter be devoted towards rendering the Telegraph System worthier of its high destiny.

Some particulars on these subjects may be given hereafter. They are more or less interesting to a large portion of the public, as well as to thousands of persons interested as officers and stockholders of Telegraph lines all over the United States.

◆

St. Louis and New Orleans Telegraph Company.

The proceedings of the Annual meeting at Paducah, Ky., April 26th, 1852, together with the "History and Bye-Laws" of the Company, are received, in a pamphlet of 56 pages. The line extends from St. Louis to Nashville, where it connects with lines to New Orleans, &c. It was commenced in 1848, but was not finished so as to work fully between its termini till May 1851. During the eleven months between that time and the annual meeting in April, 1852, the "total receipts from all sources," was $17,871 07; total expenses, $21,400; leaving the "Company's indebtedness to the President, $3,528 95." "This amount of indebtedness," says the report, "is exclusive of the salary of Tal. P. Shaffner, President, since the organization of the Company in Nov. 1848." It is proposed that the Stockholders "take immediate measures to obtain a permanent loan of two or more years, to the amount of the present indebtedness of the Company." Prospects of business are improving this season. Tal. P. Shaffner, Prest.; Matthew W. Cole, Secretary and Treasurer; and D. L. Hawkins, Superintendant. Further particulars respecting this and other Lines with which Mr. Shaffner is connected, will be given, when we receive the information he has kindly promised.

◆

Telegraphic Connection between the Old World and the New.

It is stated to us, by a gentleman who is himself engaged in an enterprise requiring the use of about seventy miles of submerged wire for connecting telegraphically some important islands with the north-eastern coast of America, that an association is actually formed, "with a purse of fifty thousand pounds," for the purpose of thoroughly investigating the practicability of extending a telegraph line between Newfoundland and Great Britain. An eminent commercial man is named to us as an efficient patron of the investigation.

All such projects and researches usually produce some incidental advantages in quickening the spirit of investigation and promoting enterprise, &c.; and where capitalists can be found to show their earnestness by the contribution of their money, the public have no reason to complain.

At the same time, while viewing with great pleasure the success which has attended the projects of connecting various European countries across sundry arms of the sea, our faith is at present hardly strong enough to indulge in any very sanguine hopes of speedily witnessing the success of telegraphic wires for the contemplated distance under the waters of the "broad Atlantic."

The Emperor of Russia could readily extend telegraphic communication across his dominions to the Russian settlements on our north-western coast, while the growing importance of our settlements in California and Oregon, as well as the British plans of colonization farther northward, render it certain that many years will not elapse before the telegraph lines will connect the regions of Behring's Straits, (where Asia and America can be readily "wired together,") with the cities of our Atlantic coast.

This may seem fanciful to some people; but who has not witnessed the realization of projects that seemed at least equally improbable?

◆

Movements of Telegraphers—Appointments, Resignations, &c.

Samuel Porter, Esq., who has been, for some time past, superintendent of the New York State Printing (House) Telegraph Line, has resigned his office, preparatory to taking charge of the new telegraph line to Sandy Hook. At a meeting of the operators on the former line, held on his retirement, resolutions were unanimously passed indorsing his character as a liberal, courteous, and efficient superintendent, and expressing regret at the interruption of the business relations that have hitherto existed between them.

Mr. Porter has, from the commencement of Electric Telegraphing, been connected with some of the important lines in the country, and always in responsible capacities; and the fact that he has always given entire satisfaction to his employers and the public, is sufficient indorsement for any situation in which he may hereafter be placed.

John McKinney, Esq., who has been for a considerable time past Superintendent of the Merchants' Line of Telegraph, between New York and Boston, which line he managed in a manner entirely satisfactory to the Board of Directors, has resigned his office. We trust this does not terminate his connection with the Telegraph business.

Charles Chester, Esq. long and prominently connected with one of the most important Telegraph lines in the country, has resigned his position and declines accepting any other of a like nature. This we should greatly regret, were it not that Mr. C., in leaving the Telegraph office, transfers himself to a position where his skill and varied scientific and mechanical accomplishments may be still more useful to the telegraph business He is hereafter to be connected with Mr. Norton in the manufacture of all kinds of telegraph apparatus; and no man in the range of our acquaintance is better fitted for a business of such a character. We shall look for many improvements in the matter of telegraph machinery.

◆

Col. Benton in the Popular Branch of Congress.

The election of Col. Benton as a Representative from St. Louis, is satisfactory to multitudes of his countrymen, who consider him eminently calculated to effect great reforms in the Federal Government. His indomitable perseverance, coupled with thorough experience in public affairs, admirably qualify him for effective duty in a field so vast and so important. Many who differed from Col. Benton, on some of the various exciting questions which divided the community during his long connection with senatorial life, rejoice most cordially at his election to the popular branch of Congress at the present time and under existing circumstances, believing, as they do, that no man is better qualified to conduct the warfare which all good citizens should now unite in waging against the corruptions that are literally overwhelming some branches of the public service.

Unless we totally misapprehend the character and intentions of Col. Benton in re-entering the stormy field of political life at his advanced age, we may safely predict that, remarkable as has been his long and eventful Senatorial career, his course in the House of Representatives will most essentially signalize his character as the champion of governmental reform, while forming an era in the history of the popular branch of our Federal Legislature.

◆

Electricity of Society, in the Shape of Woman-kind.

So many of the Telegraphic corps remain in "single blessedness," that we deem it a duty, and a very pleasant one it is, to advise that the salaries be raised on some of the Lines, so as no longer to present barriers to alliances with the better part of creation. Telegraph companies would lose nothing in the end. Duties to the Telegraph and to the public will not be less faithfully performed by those who assume the "responsibilities" of domestic life. We could not wish any of our telegraphic friends better fortune than successful competitorship for the hand of some such noble-minded women as have been going westward and southward, as teachers, under the auspices of Gov. Slade of Vermont, for a few years past; of one of whom, as a specimen, the Boston *Chronicle* says—"An orphan and penniless, she resolved to educate herself and move in a higher sphere. Amid poverty and toil she began her labors. She entered a factory to earn her bread and obtain means to educate herself. Her nights she devoted to study Her aim has been reached. Her work is done, and well done. She is a fine scholar. She can teach French and Latin—she is a fine performer and instructor of music, and is now ready for the fine field before her—the illimitable West. And she will succeed there. She will prove herself a fine specimen of a Massachusetts girl. Her husband will be a member of Congress or President of the United States, and of such girls the Old Bay State may well be proud. All success attend her."

◆

American Institute—and its Claims upon the Public.

This valuable society is progressing steadily in its useful course—increasing in honors as it advances in years. It is one of the "institutions" of which we Knickerbockers may be justly proud; and is worthier of admiration than some of the "lions" with which visitors become most acquainted when shown up with civic honors by the "Honorable Corporation."

Many of our fellow-citizens, who think they know every thing about New York, know far less about the American Institute than they should do. All such should endeavor to atone for their former sins of omission by promptly adding their names with the "odd dollar" which is requisite on attaining membership. The privileges of members are desirable; and every dollar contributed for initiation helps to extend the beneficial operations of the Institute.

The head-quarters of the Institute are at No. 351 Broadway; where Judge Meigs and General Adoniram Chandler, its principal officers, as well as Mr. John W. Chambers, the efficient Secretary of the Board of Managers, may be found daily, ready to furnish all desirable information about its operations.

The great Annual Fair, being the twenty-fifth under the auspices of this Institute, will be held at Castle Garden, in October—commencing on the 5th of the month. All who desire copies, will be furnished gratuitously with pamphlets descriptive of what is proposed to be accomplished by this valuable "Exposition of American Products and Industry."

We will keep the proceedings of the Institute steadily in view; and when furnished with a set of its reports, will occasionally collate their most remarkable features.

By the bye—the Journal of this Institute, for 1838, contains one document of particular importance in the history of Telegraphing. We allude to the report made by our worthy fellow-citizen, C. F. Durant, respecting the first public exhibition of Morse's Telegraph—a document which we will reproduce in a future number of this Magazine, as having an essential bearing on the true history of Telegraphs in America.

◆

"Knick-nacks," for beguiling time and fostering a "Home" Feeling.

Knowing, as we well know by practical experience at the Telegraphic desk, how many weary hours by day and night are spent in watchfulness for "one's turn" to "use the Line," our sympathies with those who have to be confined on an "average of *fourteen*" (and sometimes *eighteen*) working or watching hours, per diem, induce us to suggest that our telegraphic brethren may find relief from the tedium of watching, in the intervals of work, by taking a print like the "Home Journal," of Willis and Morris,—which, besides its many other merits, has the attraction of possessing those "Home" characteristics that may forcibly remind the telegrapher of the domestic circle from which he is so often widely severed by the engrossing character of his duties—especially as telegraphers, like soldiers, are rarely "stationed" in their native towns—being compelled to "go where" duty, if not "glory," calls them. Only $2 a year; or four cents (often puffed off in a single segar), per week. On the score of gallantry, it is enhanced in value by being inclosed afterwards to some fair friend, who will esteem it more valuable from its having previously furnished a share of enjoyment to the donor.

Paradoxical as it might seem to the uninitiated, we know not how we could more fully evince our sympathies for our fellow-telegraphers, than by consigning them one and all to the "tender mercies" of "Old Knick." Nothing shorter! —All the world and their wives, who regularly "laugh and grow fat" over the monthly "table" spread so temptingly by the Editor of the "Knickerbocker" Magazine, will readily indorse all we could say in advance concerning the forthcoming volumes of Selections from the multitudinous items which constituted such an attractive portion of the monthly bill of fare presented by the worthy Editor, Willis Gaylord Clark, during the last twenty years. The articles are just short or long enough to fill pleasantly the chinks of time while wearily "watching the instrument for one's turn" to shoot lightning along the line.

It was proposed, some time ago, by Mr. Reid, Superintendent of some of the O'Rielly Lines, we believe, that a small Library should be furnished for the Telegraphers at each station. And as Life and Electricity are apparently modifications of the same subtle element, there may be wisdom and foresight in keeping these Knickerbocker volumes on hand at the Telegraph stations—as, in case the galvanic batteries fizzle out, these books have "life" enough to set the lighting (and all the telegraphers) "roaring" along the lines throughout the length and breadth of this "glorious country."

These "Knickerbockers" are to be in two volumes; but candor compels us to confess that they *do* differ just now in one respect from Knickerbocker Clark himself—inasmuch as, while they are only "*nearly*," he is *always* "*ready*."

◆

RAILWAY TELEGRAPH SYSTEM,

For facilitating business and protecting Life and Property along Railroads:

Concerning a subject which is now exciting special attention from sundry influential Journals in various sections of the Union—namely, the SAFETY OF RAILROAD PASSENGERS—a few observations, in reply to questions frequently asked, may not be deemed intrusive from a former Member of the Press, whose pursuits for several years have incidentally (if not necessarily) turned his attention to the question under consideration—a question which has equal interest for every human being among the millions annually traversing the vast Lines of Railroads throughout the United States.

1. The necessity for increased *safety* in conjunction with the increased *speed* in Railroad traveling, as well as the general convenience of transacting business among *employees* along Railroad routes, should turn Public Attention promptly and strongly upon the vast importance of *Telegraphic facilities* in connection with *Railroad operations*. Precautions for protecting life and property should certainly keep pace with the increased ratio of Railroad velocity now universally required by the traveling world. Lightning may be rendered an invaluable auxiliary for Steam in this important connection.

2. Though "*Railway Telegraphing*" is attempted yet only to a very limited extent, even the partial experiment on one of the most profitable Railroads in America (though that experiment employed little of the *organized System* here proposed), will probably fully sustain the assertion, which I hazarded when commencing the establishment of the Telegraph System by individual enterprise seven years ago, "that a *well-arranged* Telegraph for *Railroad purposes* would, each and every year, render to a Railroad Company sufficient benefits to counterbalance the whole cost of construction."

3. The power of instantaneously regulating the business of even the longest Railroad, by conferring on its Managers almost ubiquitous powers—the facility for transmitting and receiving orders and intelligence calculated to promote harmonious connections of trains at every station along the route, and thus measurably to prevent, not merely *delays*, but *accidents*, that might prove seriously disastrous to property, and dangerous to life and limb (which facility of communication might be exercised by any conductor or engineer of a Railroad train while stopping even two or three minutes and connecting with the wires *at any point* along the route)—this vastly important power cannot be adequately estimated, even in view of the severe penalties which an overwhelming Public Sentiment is enforcing more and more strongly against Railroad Companies, in the shape of "damages" to persons injured by accidents—which accidents, though often seemingly beyond their present means of prevention, still further afflict those Companies in the crash of shattered trains and injured reputation, with consequent diminution of dividends and depreciation of stock.

4. With a *rightly-arranged* "Railway Telegraph System," in full operation, there is not a man *fit* for the responsible duties of Engineer or Conductor—not a clerk, overseer or "station-man" worthy of employment on any Railroad—not a man qualified for such Railroad duties (and upon whose faithful discharge of duty depends so much of life and property, as well as the character and value of the Railway itself), who could not be instructed quickly to make Telegraphic Signals, *from any point* and at any hour of night or day, which would alarm and inform *any* or *all* stations along the whole extent of the Line, about any delays, accidents, or other matters essential to the safety of passengers and property. Indeed, not only every "station" or office, but every *train* while actually under swiftest headway, may ere long be "alarmed" and "cautioned," whenever necessary, by ringing bells or displaying signals along some of the posts between the "stations," to warn engineers and conductors about *any* difficulty or irregularity which might produce accident along the track.

5. Though the System has *not* yet been carried out to *this* extent on any Railroad, IT CAN BE DONE:—And when it becomes generally known that it *can* be done, and done promptly, efficiently and economically, Public Sentiment will powerfully combine with a sense of self-interest in Railroad Companies to require that *it shall be done*—and done, too, in a manner *most effectual* for protecting life, limb and property, against the increased dangers consequent on the increased and still increasing average velocity in Railroad traveling.

6. A review of circumstances connected with delays and accidents upon Railroads generally, warrants me in expressing a belief that, by the adoption of this System, a large portion—a very large portion—of those difficulties might have been avoided—much time, expense and reputation saved—many lives and much property rescued from destruction. As these various objects *can* be measurably accomplished, it remains to be seen how far and how fast the Railroad Companies will avail themselves of the advantage—and also how far the Public and the Courts will hold any Company blameless that fails to adopt measures for preventing the recurrence of calamities which occasionally happen for want of such *well-arranged* Telegraph facilities along even the best-conducted Railroads.

7. Without dwelling on other advantages that may suggest themselves to persons who fully reflect on the subject, I will only add the remark that any Railroad which *fully* employs such *well-organized* auxiliaries for promoting the comfort and safety of passengers, (which, as before stated, can be done economically as well as efficiently,) will speedily find its advantage, not merely in the diminished liability to accidents, but in the increased confidence and patronage of the whole community. I do *not* dwell upon the probability that the several State Legislatures will ere long *compel* Railroad Companies to adopt such precautionary measures; for the principle of *self-interest* alone, if no other principle influences Corporations, (and Railroad Companies have certainly manifested strong desires for adopting all practicable improvements suggested by a spirit of humanity,) will cause the speedy adoption of the "*Railway Telegraph System*" as being calculated essentially to protect life and property amid the increasing dangers to which they are exposed by the increasing velocity of Railway traveling in these days of Steam and Lightning.

HENRY O'RIELLY.

New York, July, 1852.

Telegraph Patentees.

As curiosity is more or less evinced respecting the "whereabouts" of men noted for their connection with matters which interest the public generally, it may be satisfactory to many of our readers, to know that Professor Morse resides near Poughkeepsie—in a place pleasant enough to counterbalance some of the cares which he, in common with most inventors, had long to encounter, before realizing any substantial remuneration from his patents.

In reply to occasional inquiries, it may be stated that Mr. Alexander Bain is probably in England—we believe in London—not having been in this country for the last year or two. The instruments made by Mr. B., though laid aside on several lines, are yet used on about 1,000 miles of line in the United States. It is not probable that their application will ever be more extensive. The decision of Judge Kane and other considerations seem to render their ultimate disuse inevitable. On several lines, where they were employed, suits have been avoided by consolidating with the Morse companies.

Professor House, on whose plan several important lines have lately been built in the United States, resides in New York; and, it is hoped, is realizing some adequate benefits from an invention which is characterized by great ingenuity.

Telegraph Law—a Subject for Jurists.

The extent to which the telegraph is employed in almost every imaginable sort of correspondence—much of that correspondence involving matters of great pecuniary importance—is producing occasional cases which are not always settled without reference to judicial authority.

The popular good feeling towards a new enterprise of such a peculiar character, has heretofore induced many to submit to considerable damage rather than "sue the telegraph," in the hope that improved regulations would soon render the lightning more reliable, and in the doubt whether the peculiar character of the enterprise would not free it from penalties like those suffered in other branches of business where error occasioned damage to any of the parties.

We cannot mistake the general determination now manifesting itself, to hold the telegraph to stricter accountability hereafter.

It is incumbent on all telegraph companies to prepare themselves to meet the just requirements of the public in this respect, by giving increased attention to their modes of transacting business, in their connections with other lines for receiving and transmitting dispatches, and in the moral character as well as intellectual competency of the telegraphers, receivers, and others employed in conducting business involving the confidence and property of large portions of the community. Credit as well as property may be lost or damaged by the failure of the lines to form proper connections with each other, or by the roguery of persons (and there have been a few such) who destroy dispatches and pocket the cash without leaving any record by which the reception of such dispatches could be detected, owing to the looseness with which the business has been and is yet transacted on and between many telegraph lines.

We will not now dwell on a subject which must receive attention from all who fully reflect on the important relations which the telegraph holds to society—our chief purpose now being to invite the attention of jurists to the formation of a *Telegraphic Code*, which, like law maritime or commercial, shall clearly indicate the rights and wrongs and remedies in all matters concerning the relations between the telegraph companies and the rights of the community. The subject is worthy of any of the best minds in the law; and to such we most earnestly commend its consideration.

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Steam on Canals.

The enlargement of the Erie Canal, when completed, (a period which appears rather indefinite at the present time and under the peculiar circumstances), will furnish ample opportunity for another demonstration of the power and economy of steam—if *steam* is not rendered obsolete by some other and cheaper power before that desirable result is witnessed upon our noble water-way. Even with the present restricted dimensions of that canal, efforts are in progress for testing the experiment of towing by steam. For this purpose, an invention lately patented by a Mr. G. Parker, of Massachusetts, is favorably mentioned—the experiments with which, elsewhere, are said to be satisfactory.

It is stated that "a boat constructed on Parker's plan, recently arrived at New York from Cumberland, Md., with three large barges laden with coal, which she towed from that place through the Chesapeake and Ohio Canal, Potomac river, Chesapeake Bay, Delaware and Chesapeake Canal, Delaware river, and Raritan Canal, a distance of nearly 500 miles. She is about 100 tons burden, and has two engines, rated at 15 horse power each; and the only things that differ from ordinary steamboats, are the peculiar shape of her buckets, and the addition of a float, back of the wheel, which is in the centre of the boat. The blades are bent so as to form the segment of a circle, and they enter and leave the water without creating the great motion caused by the ordinary paddles. Should, however, the power required cause any swell, the raging waters are smoothed down and pacified by the float that follows the wheel. This float can be raised or lowered as circumstances may require. The owners of this boat assert that they can take a train of freight boats, loaded with 800 tons of coal, from the Cumberland Mines to tide water, at a speed of four miles per hour, at one-third to one-half the price at which the work can be done by horse power; and the boats can be passed through the locks without detaching them, and in less time than is required by the same number of boats propelled separately."

What has become of the plan proposed by Lieut. Hunter, of the U. S. Navy—on which plan, a boat was built and taken through the Erie and Oswego Canals a few years ago?

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Morse's Letter about Application to Congress for Extension of his Patents.

On the above subject, the *Rochester American* remarks as follows:—

"We observe, in the *New York Herald*, a letter from Prof. S. F. B. Morse, relative to his "American Telegraph" invention, and the unfair treatment which he thinks he has received, particularly from the press; which treatment he attributes to the unpopular position taken by some of the assignees. The importance of the invention of Prof. M. can hardly be over-estimated. It was the first successful recording telegraph; in simplicity and cheapness it has never been equaled; and the perfection with which it does its work never has been and perhaps never can be surpassed. But, from some cause, the validity of the Patents obtained for the invention was seriously questioned by many. This, no doubt, operated greatly to the injury of Prof. M. But as the courts have uniformly, in the strongest manner, affirmed the legality of the disputed grants, we are bound to believe that from some reason (probably the one to which he attributes it himself), Mr. Morse has suffered much injustice, and has not received the pecuniary benefit to which he is justly entitled for an invention of such great public utility; an invention which is now being adopted in several foreign countries and doing no little honor to the American name.

"We are not fully acquainted with the merits of his case, but we wish him entire success in any just application for relief.

"We like the straightforward style of his letter, which says in reference to an appeal to Congress:

"'I am free to say that it is my intention thus to apply to the legitimate source, when the proper time comes; nor do I fear the result, for I shall rest on the intrinsic justice of my claims, when the mystifications and misrepresentations of those who have defrauded me, and would still continue to defraud me, whether it be any of "the whole body of the people," any of "the newspaper press," or any of "the members of both branches of the national legislature," who are capable of being intimidated by threats or won by bribes, shall be cleared away, and the true facts of the case presented for the consideration of those who are to act in the matter.'"

(Remarks of the Telegraph Magazine.)

The above is a pretty correct expression of the general feeling toward Prof. Morse and his telegraph. While few are disposed to do the Professor less than justice, fewer still are inclined to depreciate the importance of his beautiful invention—"an invention which, for simplicity and efficiency, has never been surpassed." Many, nevertheless, thought that too much was claimed for it, and that there was a disposition shown to make it an instrument, not of convenience, but of oppression to the public. How far such an impression was correct, we shall discuss more at length in a future number. That too much was expected by the community, is certain, and unwise expectations disappointed, are always likely to excite unjust reflections. We have, and shall lay before our readers, all the data necessary to show whether or not the telegraph enterprise has been conducted with a due regard for the public good and convenience; and although we promise no "startling developements," we think it will prove an interesting chapter in telegraph history.

As indicated in the article quoted, the judicial decisions sustaining Prof. Morse's patents, will doubtless set at rest the question of their validity, as even those believing them *invalid*, will probably deem it useless to contest them.

◆

Another Shot at Paine!

Since the preceding pages were put in type, a new contestant has "kicked up a dust" with Mr. Paine, by claiming that *he* is the *real* inventor of the material portion of the Car-Ventilator or Duster, and alleging that Paine made a slight improvement on his plan, which was patented before Paine's improvement. NELSON GOODYEAR is the name of the new claimant.

We may add that we are informed of another invention for the same purpose, which will probably compete successfully with the foregoing, no matter who may be the real inventor.

◆

Odd Effect of Railroads.

Singular effects—effects never "dreamt of in the philosophy" of the wildest zealots for "internal improvement," have already resulted from the establishment of Railroads in some parts of Indiana and Illinois. The thundering noise of the trains, and especially the shrill whistling of the locomotives, have served as a notice to quit, and caused sundry obnoxious "varmint" to offer leg-bail for security. The Chicago Tribune states, that, since the railroad tracks were laid down around the Lakes, "not a single wolf has been seen or heard of, north or south of them," although up to that time, the farmers suffered severely from the constant depredations on their flocks.

The novelties of railroading in another quarter of the world, are amusingly hit off in some doggrel, which is copied from an "exchange paper," without any particular signs of paternity, to designate the waggish author:—

The Locomotive in the Holy Land!

They are building a railroad in Egypt; and late accounts from Alexandria tell us, that nine or ten thousand workmen are actively engaged upon it. Think of that! Crossing the desert after a locomotive! Good bye to camels and dromedaries! Farewell to tents beneath the spacious blue firmament over head! A "long farewell" to Arab guides and Arab extortions! Railroads and steamboats will yet thread through Palestine, and paddle the sluggish waters of the Dead Sea! Now look for trade in pots and pearls, made from the "ash-apples" on "the Dead Sea's shore." Sing the following, on the twenty-sixth page, "irregular metre." Air "Go ahead!"—

Over the billows and over the brine,
Over the water to Palestine!
Am I awake, or do I dream!
Over the ocean to Syria by steam!
My say is sooth, by this right hand!
A steamer brave
Is on the wave,
Bound positively for the Holy Land!
Godfrey of Boulogne, and thou,
Richard! Lion-hearted King!
Candidly inform us now,
Did you ever?
No you never
Could have fancied such a thing!
Never such vociferations
Entered your imaginations,
As the ensuing:
——"Ease her! stop her!
"Any gentleman for Joppa?
"'Mascus, 'Mascus?" "Ticket, please, sir;'
"Tyre or Sidon!" "Stop her! ease her!"
"Jerusalem, 'lem 'lem!"—"Shur! Shur!"
"Do you go on to Egypt, sir?"
"Captain, is this the land of Pharaoh?"
"Now look alive there! Who's for Cairo?"
"Back her! stand clear! I say, old File!
"What gent or lady's for the Nile?
Or Pyramids?" "Thebes, Thebes, sir,—steady!"
"Now, where's that party for Engeddi?"

Pilgrims, holy Red-Cross Knights,
Had you e'er the least idea,
Even in your wildest flights,
Of a steam trip to Judea?
What next marvel Time will show,
It is difficult to say—
"Omnibus to Jericho,
Only sixpence all the way!"
Cabs in Jerusalem may ply;
'Tis not an unlikely tale;
And from Dan the tourist hie
Unto Beersheba by rail!

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Movements of Telegraphers.

Samuel K. Zook, Esq., who commenced almost with the commencement of the Telegraphic System, and who has been engaged in highly responsible posts on the O'Rielly Lines for the last six years, (having been Superintendent of the Louisville and New Orleans

Line, &c.,) has withdrawn from his position at the National Office in New York, and will devote his attention energetically to the extension of Telegraph Lines along Railroads chiefly in the Western States, under the Contracts of Mr. O'Rielly. No man ever passed through official duty with more unblemished integrity; and few men in Telegraphic life had to encounter more of its harassing ordeals. Any Railroad or Telegraph Company may fully rely on his faithful fulfilment of all duties which he undertakes.

We take pleasure in mentioning that B. F. Ely, Esq., formerly on the O'Rielly Lines at Louisville, as one of the Chief Telegraphers, is now assigned to duty at New York, on the same range of lines—at the National Office, No. 2, Wall street. Mr. Ely has spent the last year in traveling in Europe. The official position he holds is well justified by his capacity as a Telegrapher.

List of Telegraph Officers.

We are preparing a List of all the Officers of Telegraph Lines through the United States and British American Provinces,—which we wish to make as perfect as possible. We do not merely design to present the names of the Presidents and Secretaries of Companies, but also the names and locations of that class of officers (the Telegraphers) with whose faithful discharge of duty the public interests are so largely connected. We wish to arrange the names in the same manner as the official lists of the Federal Government—showing the birth-place, location, &c., of each Telegrapher; and we hope to be furnished promptly with all the requisite information from the chief of every office in America, by letters addressed to us at New York.

◆

We solicit the aid of Telegraphers, and others interested in the science of Electricity, in our endeavor to make the Telegraph Magazine a valuable and interesting periodical. We request from them communications on any and all subjects, pertinent to our main purpose—the improvement of our present telegraphic system. We trust that our next number will show that the above request has been fully responded to. We are already promised aid from several persons familiar with Telegraphic matters generally—but the more the better, so as the communications contain useful facts or remarks.

Telegraph Charges.

Some of the papers speak of the heavy expense incurred for news transmitted by Telegraph. It does cost considerable for Telegraphing, certainly; but the Telegraph renders service to the full worth of the money. The New York Herald alone probably paid more for *Expresses* by steam-boats, railroads and "poneys," in former years, than all the New York newspapers now pay annually for Telegraphing.

To all concerned in Telegraphing.

As this Magazine must be supported, mainly, by its subscription list, we appeal to those who are connected in any way with the Telegraph System, and to all others having (as who has not?) an interest in its improvement, to forward us their names and their money, for which we will endeavor to render them full equivalent. It is expected that the monthly numbers will make, in the course of the year, a volume of about six hundred pages—valuable for permanent reference, in all Telegraphic matters.

There are now several books, more or less valuable, on the subject of Telegraphs and Telegraphing—the latest and most comprehensive of which, is by Alexander Jones, Esq., of New York. We propose reviewing these works at some length in subsequent numbers.

Notice to Telegraphers.

Superintendents of Telegraph Lines wishing to secure Telegraphers, or Telegraphers wishing to secure situations, will probably find it to their advantage to advertise in this Magazine; as will also all persons manufacturing or selling telegraph instruments, batteries, wire, or any thing connected with the building or operating of Telegraph lines. All letters will be considered strictly confidential, where we are addressed personally by those who forward advertisements for the above purposes.

AMERICAN TELEGRAPH MAGAZINE.

Terms *Two Dollars* a year, invariably in advance.

ADVERTISING.

6 lines, one insertion,	0	50
10 do do	0	75
14 do do	1	00
Half page, one insertion,	5	00
One page, do do	10	00
Less than half a page, a year, per line	1	75
Half page, per year,	50	00
One page,	100	00

NOTICE.

It is particularly requested that all addressing orders to me, would write in a plain hand the name in full of the Town or Post Office, County and State, to which they wish their answers forwarded.

Subscribers are authorized and requested to send bank notes or change by mail, at my risk, provided it is done in the presence of the Post Master, and the letters are franked.

☞Post Office Stamps taken at their value. These are, the most convenient to send, and there is no discount upon them.

All communications and remittances intended for this Office, in order to secure attention, should be *post paid*.

☞All letters addressed (*post paid*) to DONALD MANN, Editor Telegraph Magazine, New York.

Atlantic and Pacific Telegraph

Established under arrangements of Henry O'Rielly—7000 miles completed,

And about 4000 additional miles arranged for construction.

FIRST DIVISION,
CONSTRUCTED
EASTWARD OF THE MISSISSIPPI,
(Known as the "Atlantic, Lake, and Mississippi Telegraph,")

Extending between the Atlantic and the Mississippi, and connecting nearly all the Principal Towns between the British-American Frontiers and the Mexican Gulf—embracing the Ohio and Mississippi Valleys, as well as the Lake Country—about 7000 miles constructed, and 4000 miles arranged for construction.

SECOND DIVISION,
EXTENDING
WESTWARD OF THE MISSISSIPPI,
(Herewith proposed for construction.)

To include the "Mississippi and Pacific Telegraph," additional to other extensions in different quarters West of the Mississippi—to be extended to California and Oregon, (including Nebraska, Desereta, and New Mexico.) when Congress authorizes the extension, or protects the route through the Public Domain.

MEMORIAL OF HENRY O'RIELLY,

PROPOSING A SYSTEM OF

TELEGRAPHIC & LETTER-MAIL COMMUNICATION

Between the Atlantic & Pacific.

INCLUDING THE

PROTECTION OF EMIGRANTS, THE FORMATION OF SETTLEMENTS

AND PROMOTION OF AMICABLE RELATIONS WITH THE INDIANS,
THROUGH NEBRASKA, DESERETA, (Utah?)
NEW-MEXICO, CALIFORNIA AND OREGON,
AND THUS FACILITATING
INTERCOURSE ACROSS THE AMERICAN CONTINENT,
BETWEEN EUROPE AND CHINA, HAWAII, AUSTRALIA,
THE RUSSIAN AND BRITISH POSSESSIONS ON THE NORTHWEST COAST,
AND OTHER REGIONS OF THE "PACIFIC WORLD."

TO WHICH ARE ADDED, EXTRACTS FROM THE REPORTS AND RESOLUTIONS PUBLISHED BY THE GENERAL COMMITTEE OF THE
"NATIONAL TELEGRAPH & RAILROAD CONVENTION,"
AT ST. LOUIS, IN 1849,
EXPRESSING APPROBATION OF O'RIELLY'S PROJECT,
AND
COMMENDING IT TO THE "FAVORABLE CONSIDERATION OF CONGRESS."

Practicability of O'Rielly's project:

"The Scheme of Mr. O'Rielly is admirably adapted, *in every aspect* in which it can be considered, to the production "of beneficial results. ☞ This, too, we know to be the opinion of a number of intelligent persons who have "been familiar for many years with the whole western Territory and its contents." * * * * * *

"The more we have reflected upon this Scheme, the more firmly are we convinced of its feasibility and utility."—*Report of St. Louis Committee, pages 64 and 65.*

"That the Congress of the United States, to which the following pages (of the St. Louis Convention Report) have been "inscribed, will act with promptitude and efficiency upon the subject, there can be little doubt; and that a system "which has been sanctioned and approved with such unexampled unanimity by those who, from their *locality*, "*associations*, and *pursuits*, *must be the most competent judges*, will receive from that body respectful consideration, "is surely to be anticipated.''—*Same Report.*

O'Rielly asks no Special Favors.

"The fact that the undersigned SOLICITS NEITHER MONEY NOR FAVOR, *from the Federal Government*, may "at least free this Memorial from some of the difficulties usually connected with individual applications for governmen- "tal attention. The undersigned ASKS NOTHING FROM THE GOVERNMENT which should not be shared in common with "all citizens whose business requires PROTECTION OF LIFE AND PROPERTY ACROSS THE PUBLIC DOMAIN. Having been "sustained by PUBLIC CONFIDENCE, and not by any Governmental assistance, from the commencement of Telegraphing "in America, down to the present period, he prefers to continue that reliance upon his fellow-citizens, individually— "being well assured of adequate support in this enterprise from energetic capitalists and business-men—rather than "solicit from Government any assistance which may not be commonly enjoyed by all persons who embark their lives "and property in Telegraphic or other enterprises through the Public Domain, between Missouri and California.

—*Vide O'Rielly's Memorial.*

Atlantic and Pacific Telegraph.

MERCANTILE LIBRARY NEW YORK

MEMORIAL TO CONGRESS.

ATLANTIC AND PACIFIC TELEGRAPH.

Telegraphic and Letter-Mail Communication with the Pacific—Including the Protection of Emigrants and the Formation of Settlements along the Route, through Nebraska, Desereta, California and Oregon, with branches to New Mexico, &c.—and facilitating the correspondence across the American Continent between Europe, China, Hawaii, Australia, the British and Russian Dominions on the Northern Coast, &c.—(A Plan approved by the National Convention at St. Louis, in 1849.)

1. The extraordinary events connected with the sudden colonization of California, having quickened the public mind respecting the plan previously published by the undersigned for extending the Telegraph to the Pacific Ocean, the attention of the Federal Government is now again respectfully invited towards the propositions in the Memorial which Senator DOUGLASS of Illinois, (chairman of the Committee on Territories,) presented on his behalf at a former session, three years ago.

2. The general character of the lines (about seven thousand miles) of Telegraph already constructed, under the arrangements of the undersigned, in the FIRST Division of the "Atlantic and Pacific Telegraph Range," EASTWARD of the Mississippi—lines constructed amid difficulties probably unparalleled in the history of any similar enterprise—may indicate to Congress whether the undersigned would now propose any impracticable plan for completing the comparatively short section of two thousand miles between Missouri and California.

3. The fact that the undersigned SOLICITS NEITHER MONEY NOR FAVOR *from the Federal Government*, may at least free this Memorial from some of the difficulties usually connected with individual applications for governmental attention. The undersigned ASKS NOTHING FROM THAT GOVERNMENT which should not be shared in common with all citizens whose business requires PROTECTION OF LIFE AND PROPERTY ACROSS THE PUBLIC DOMAIN. Having been sustained by PUBLIC CONFIDENCE, and not by any Governmental assistance, from the commencement of Telegraphing in America down to the present period, he prefers to continue that reliance upon his fellow-citizens, individually—being well assured of adequate support in this enterprise from energetic capitalists and business-men—rather than solicit from Government any assistance which may not be commonly enjoyed by all persons who embark their lives and property in Telegraphic or other enterprises through the Public Domain, between Missouri and California.

4. Annexed is a brief statement of the proposition respectfully submitted now, as at a former session of Congress; a proposition which has met with much public favor wherever it is understood, as shown by the newspapers of Missouri and other States, as well as by the Report of the General Committee of the St. Louis National Telegraph and Railroad Convention as shown in the pamphlet, wherein that Committee republish the propositions, and expressly declare their hearty approval of the course proposed by the undersigned, for extending the Telegraph to the Pacific.

The proposition is substantially to the following effect: That Congress shall pass a law, providing, that instead of establishing forts, with hundreds of men at long intervals apart, the troops designed for protecting the route shall be distributed in a manner better calculated to promote that and other important objects on the principal route through the Public Domain; namely, by stationing PARTIES OF TWENTY DRAGOONS AT STOCKADES TWENTY MILES APART:

And, providing, also, that two or three soldiers shall ride daily, each way, from each stockade, so as to transport a DAILY EXPRESS LETTER-MAIL ACROSS THE CONTINENT, while at the same time protecting and comforting the emigrants and settlers; and thus INCIDENTALLY FURNISHING ALL THE PROTECTION WHICH THE UNDERSIGNED INVOKES as a necessary preliminary for completing the comparatively short link of Telegraph between Missouri and California—short, comparatively, as contrasted with the seven thousand miles of Telegraph constructed under his arrangements in the FIRST Division of the Atlantic and Pacific Telegraph.

5. The public intelligence, when fully directed to these subjects, will readily perceive the instantaneous and immense influence which such a simple and economical TELEGRAPH AND LETTER-MAIL SYSTEM ACROSS THE AMERICAN CONTINENT would effect in revolutionizing the Correspondence of the World, as well as in promoting the perpetuity of the Union, and in advancing the settlement and security of vast regions which cannot be settled without some such protection as may thus be afforded by a PROPER DISTRIBUTION of the troops already employed ostensibly for repelling the Indians along the route to the Pacific.

6. Mature investigation and reflection, after consultation with friends familiar with the Plains and Mountains, warrant the undersigned in saying that those arrangements, faithfully carried out with MILITARY PRECISION by relays from each stockade, would guarantee the transmission of DAILY LETTER-MAILS BETWEEN MISSOURI AND SAN FRANCISCO, (a distance of about twenty-three hundred miles,) *with almost equal speed and certainty as the steamer-mails between New York and Liverpool*—certainly with greater speed and regularity than the winter mails between New York and the western frontiers of Missouri and Arkansas—incidentally rendering this line ONE OF THE BEST AND QUICKEST MAIL LINES IN THE WORLD, (and also the most economical, by causing the mounted soldiery to transport Letter-Mails without extra expense,)—while securing amplest SUPERVISION OF THE TELEGRAPH, and PROTECTING AND ENCOURAGING TRAVELLING AND EMIGRATION in the most efficient manner—while COLONIZING THE COUNTRY ALONG THE ROUTE, and securing FRIENDSHIP WITH THE INDIANS by furnishing market for their game and furs—and while offering INDUCEMENTS FOR THE IMMEDIATE CULTIVATION OF LAND around the stockades, for supplying travellers—making A CONTINUOUS LINE OF WELL-ORGANIZED SETTLEMENTS—whereat emigrants and travellers could readily find shelter and sustenance, together with telegraphic and mail facilities for communicating with their distant friends, instead of being debarred from correspondence for months, (as at present) while travelling between the Mississippi and the Pacific.

7. While either one of the foregoing considerations are seemingly sufficiently important to justify prompt action on the part of the Government, the movement would also be useful as PRELIMINARY TO THE STUPENDOUS RAILROAD SCHEMES which are now justly exciting attention among the American people.

8. This project did *not* originate in the excitements connected with the modern Eldorado. It was first submitted to and approved by the Western Press and People, when the undersigned first extended the Telegraph Lines to the Mississippi, in the winter of 1847, as shown by the publications of that period. Before California was ceded by Mexico—before the golden attractions of that region were known—this policy seemed sufficiently important to command attention and approbation in the Western States, and wherever else the subject was examined. The language of the St. Louis and other journals, and the adoption and approbation of the proposition by the committee of the great St. Louis Convention, show that the value of the enterprise was coolly calculated by gentlemen familiar with the emigration and with the country between the "Old States" and the Pacific Coast, and with the vast commerce of that ocean, which might seemingly be brought "within hailing distance" of the Atlantic, through the instrumentality of the Telegraph. And, if the objects were satisfactory to inquiring minds, in the *then* condition of the country, it may well be imagined that the policy is *now* vastly more important in view of the revolution suddenly effected in the relations between the Atlantic and Pacific coasts—in view of the recent acquisitions of territory—the rapid de-

velopment of population and wealth, and the extension of governmental institutions along the shores of the Pacific, in Oregon as well as in California, superadded to the increased extent of American and foreign commerce afloat on that ocean; the importance of which considerations is sufficiently indicated by the extraordinary suddenness of establishing STATE sovereignty (instead of TERRITORIAL Government) on the Pacific slope of the Rocky Mountains.

9. The undersigned has already completed far more extensive Telegraph Lines than he promised at the commencement of the enterprise, *those lines extending between the Atlantic, the Lakes and the Mississippi*, from the *British Frontier to the Gulf of Mexico*—making a total of nearly seven thousand miles, with four thousand more under contract for construction; and the American People can judge whether the person who arranged this extensive system of Telegraph Lines, would be likely to propose any impracticable plans for completing the comparatively short section between the Mississippi and the Pacific.

10. With these remarks, from which the President and the Congress of the United States may judge of the attention bestowed by the undersigned on the subjects to which he now again respectfully invites examination, he submits THIS MEMORIAL, praying, NOT FOR MONEY OR FAVOR FOR HIMSELF, but merely that the present military force may be so distributed along the Line as to PROTECT ALL CITIZENS who, like himself, may desire to promote or effect communication through the Public Domain, from the Missouri frontier, through Nebraska and Desereta to California and Oregon, IN which latter countries he has already contracted with responsible parties for the extension of the Telegraph System, in unison with his arrangements on the Atlantic side of the Continent.

11. This Memorial is published in the newspapers, that the Public may understand the precise nature of the plan proposed by the undersigned for completing the Telegraphic connection across the American Continent, which has met with much favor in various quarters—for the further purpose of answering many inquiries addressed to him from various sections—and for the purpose, also, of enabling those who are interested in the subject, (and who is now without some interest in the matter?) to determine whether any action is necessary on their part to promote the adoption by Congress of some efficient "PLAN FOR PROMOTING TELEGRAPHIC AND LETTER-MAIL COMMUNICATION WITH THE PACIFIC—INCLUDING THE PROTECTION OF EMIGRANTS, AND THE FORMATION OF SETTLEMENTS ALONG THE ROUTE—AND FACILITATING THE CORRESPONDENCE ACROSS THE AMERICAN CONTINENT BETWEEN EUROPE, CHINA, HAWAII, AUSTRALIA, &C."

12. With such a System promptly and liberally carried into effect, the undersigned does not hesitate to repeat the prediction, that, within two years, *at farthest*, the EUROPEAN NEWS may be PUBLISHED on the American shores of the PACIFIC OCEAN WITHIN ONE WEEK from the sailing of the steamers on the "shortened route" between the OLD WORLD and the NEW.

13. This whole subject acquires additional importance from the immense rivalry suddenly aroused respecting the vast regions on the PACIFIC—between which regions and Europe the TELEGRAPH ACROSS THE AMERICAN CONTINENT will prove inestimably valuable in the transmission of intelligence and the regulation of trade.

The condition of Society presents few cases wherein moderate means may be rendered more quickly productive of magnificent results for the welfare of Mankind.

HENRY O'RIELLY.

New York, December, 1851

PROPOSAL FOR EFFECTING THE PROJECT.

I. Influenced by the foregoing and other important considerations connected with the social, commercial, and political interests of the United States—(and who will doubt that such a system is of high import to the happiness and prosperity of our rapidly expanding settlements, and also for the harmonious PRESERVATION OF OUR NATIONAL CONFEDERACY?)—

II. And encouraged by the general approbation bestowed upon the Project wherever it is understood—(and it was understood by those who composed the Great National Telegraph and Railroad Committee at St. Louis, in 1849, and by many of the leading journals of the United States, brief extracts of whose expressed opinions are hereto annexed)—

III. The undersigned respectfully invokes the attention of the Federal Government to the propriety of passing a law, at the earliest practicable period, for accomplishing the objects briefly outlined in this Memorial with the least practicable delay, with a view to arrangements for the coming season on the plains and mountains, which law shall (1) authorize the Executive department of the Federal Government to designate a suitable route, which shall be declared a "Post Road," and (2) station the troops in stockades of say twenty dragoons at distances twenty miles apart; and (3) shall also authorize the formation of a contract with such person or persons as may offer most advantageous terms for the public interest, for the transmission of *Express Letter-Mails*, deliverable within TEN *days* at each extremity of the route (on the Pacific and on the Mississippi River)—having reference in this contract also (4) to the employment of the dragoons in carrying the letter mail-bags while patroling daily between the stockades for the protection of travellers; and having reference, also, in all the arrangements, (5) to the encouragement and protection of a Line of Electric Telegraph, connecting all the stockades along the route, for the transmission of governmental despatches, as well as the despatches required by the social, commercial, and political relations of the people generally throughout the United States—(6) These Telegraph and Mail arrangements being incidentally calculated to "promote the protection of Emigrants, the formation of settlements, and the extension of amicable "relations with the Indians, through Nebraska, Desereta, New Mexico, California and Oregon; while facilitating in-"tercourse across the American Continent, between Europe and China, Hawaii, Australia, the British and Russian "Possessions on the North-West Coast, and other regions of the Pacific World."

IV. If the Federal Executive shall be promptly authorized by law, (where his general powers are insufficient,) to carry out these suggestions, so as to make *immediate* arrangements for the enterprise, the Memorialist will, if required, construct and organize a Line of Telegraph in connection with Express Letter-mail transportation, as a part of this general plan, *before next winter*, to the Rocky Mountains—to Fort Laramie, if not to Desereta or Utah, if that route shall be selected; or at least to a proportionate extent along a more southerly route, towards the Gila Valley, including New Mexico—bringing the settlers and soldiery of those regions *this year* within range of Telegraphic and Letter-mail communication, while the completion of the *whole* route to the Pacific can be secured at an early period of the following spring or summer—with less expense than the Government is now actually suffering for want of such conveniences of communication.

V. "With such a system promptly carried into effect," the Memorialist repeats that "he does not hesitate to renew the prediction, that, within two years *at farthest*, the EUROPEAN NEWS may be published on the American shores of the Pacific Ocean within one week from the sailing of the Steamers on the *shortened route* between the OLD WORLD and the NEW:" While the route, once established, will *shorten by one-half* the time now ordinarily required for Letter-Mail transportation between the Atlantic and Pacific States—and at the same time serve as a well protected Road—which may be emphatically termed the PEOPLE'S HIGHWAY—for the multitudes who are now unable to encounter either the privations of a journey with their families through the now unguarded and cheerless wilderness, between the Mississippi and the Pacific States, or to incur the heavy expense of Steam-Navigation by the route of Central America, or by the more circuitous way of Cape Horn.

VI. It will be seen that this Memorialist asks no exclusive favor—no appropriation—no appointment. He asks for nothing which shall not be OPEN TO FREE PUBLIC COMPETITION. If he cannot arrange to accomplish these varied and important objects, promptly, and economically, and satisfactorily, (giving ample security for the fulfilment of any contracts, as far as the execution of the objects can be accomplished under contracts,) he will rejoice to see these great measures of National Policy completed by others who may be deemed capable of more largely benefiting the Public Interests in this important enterprise—an enterprise, which, in its manifold and immense influences, may challenge comparison with any System of Policy (aside from questions of personal liberty and national independence) now under discussion in this Confederacy, or any other Nation of the World.

HENRY O'RIELLY.

Atlantic and Pacific Telegraph.

EXTRACTS FROM THE

REPORT AND RESOLUTIONS

PUBLISHED BY THE GENERAL COMMITTEE OF THE

NATIONAL TELEGRAPH AND RAILROAD CONVENTION

AT ST. LOUIS, 1849,

APPROVING O'RIELLY'S PROJECT

FOR INTERCOURSE AND CORRESPONDENCE ACROSS THE AMERICAN CONTINENT.

AT an early period during the past spring, the people of St. Louis, profoundly impressed with the importance of opening a commercial communication from the Mississippi to the Pacific, for the double purpose of binding to the Union our colonies on the western coast, and of effecting a radical change in the route of commerce to China, and the East Indies, assembled themselves in Mass Meeting, to deliberate upon these important objects. In this meeting it was resolved that a *National Convention*, consisting of delegates from every State and Territory in the Union, which might take sufficient interest in the grand object to appoint them, should be invited to assemble in the City of St. Louis, on the 16th day of October, to give expression to the will of the American people. After ample discussion, the following Resolution, among others, was adopted.

Resolved, That the project of a great line of Railway across the American continent, is, in all its aspects, a National project—that as such, it is due to every State and section of the Union that their opinions and views shall be heard, and their interests fairly considered,—and that we deprecate any attempt to excite sectional jealousy, party rivalry, or personal feeling in reference to this important subject.

The Mayor was then authorized to appoint a General Committee of twenty-five citizens to address the people of the United States, and by correspondence and otherwise, to secure a full representation in said convention. This committee was appointed accordingly by the Mayor, and consisted of the following persons, viz:

L. M. Kennet, Tho. Allen, T. B. Hudson, M. Tarver, Henry Keyser, V. Stanley, A. B. Chambers, R. Phillips, John O'Fallon, Edward Walsh, John F. Darby, J. M. Field, L. V. Bogy, Geo. K. Budd, N. R. Cormany, John Loughborough, Charles G. Ramsay, J. C. Meyer, John Withnell, G. L. Lackland, Tho. T. Gantt, Tho. D. Yeats, Sam'l Gaty, O. D. Filley, A. Olshausen.

Acting in strict accordance with this magnanimous resolution, the general committee of twenty-five, appointed by the Mayor of St. Louis, of which I have the honor to be the chairman, at its first meeting constituted five sub-committees, viz: a committee to frame an address to the people of the United States; a committee of publication; a committee of finance, and a committee to prepare statistics for the use of the contemplated convention.

The committee upon the Address were instructed to treat this subject as a great National Measure, above all *party* considerations, and all personal designs—in the construction of which the whole Union had a deep interest and every section of it a right to have its sentiments considered. The duty imposed upon this committee, of which Thomas Allen, Esq., was the chairman, was performed with fidelity and eminent ability. The committee of correspondence received a like instruction. That committee, of which A. B. Chambers, Esq., was the chairman, conformed its action faithfully to the true spirit of the resolution of the people of this city.

Upon the committee of publication the duty was devolved of collecting from every one, feeling an interest in the subject, essays and facts, illustrative of the great purpose, and giving them to the people. In consequence of the prevalence of that most awful of calamities, the cholera, this committee, of which M. Tarver, Esq., was the chairman, found it impracticable to accomplish much in reference to the objects for which it was constituted. The committee of finance, of which John C. Meyer is the chairman,- has continued throughout to perform its duty with fidelity. Upon the committee on maps and statistics, of which J. Loughborough, Esq., was the chairman, the duty was devolved of collecting and classifying facts and statistics illustrative of the project, together with accurate maps for the use of the convention. This was a most serious labor, and a most responsible duty; but I am gratified to believe that it was performed to the *entire satisfaction of the general committee and of the National Convention.*

The first step taken by the committee on statistics, was the composition by its chairman, of the annexed essay upon a Pacific Railway, which, after being approved by the committee of publication, and the general committee of twenty-five, was inserted in the Western Journal. A large number of extra copies of that valuable periodical were ordered by the general committee for distribution, and we have abundant evidence by letters from all parts of the Union, and through the public press, that its effect upon the public opinion of the country has been eminently beneficial.

Upon the day appointed for the organization of the National Convention, the delegates met in the Court House in this city. The Hon. Abner T. Ellis, of Indiana, was unanimously called to preside over the assembly, pending the appointment of its permanent officers. A committee was then appointed to select permanent officers for this convention, and reported the name of the Hon. STEPHEN A. DOUGLASS, of Illinois, as the President of the convention, with a Vice President from each State, represented, and several Secretaries, all of which nominations were unanimously concurred in by the convention.

The following States were represented in the convention, viz:—Missouri, Illinois, Indiana, Kentucky, Pennsylvania, New York, Ohio, Iowa, Wisconsin, Michigan, Virginia, Tennessee, New Jersey, and Louisiana. The whole number of delegates was eight hundred and thirty-five.

* * * * * * *

[As a Pioneer of Railroads and Settlements, the St.Louis Report makes the following statements:]

A TELEGRAPH TO THE PACIFIC.

THE NECESSITY OF SUCH A LINE.

In the present condition of things, it is almost impossible for the Government of the United States to retain in its hands any supervisory control over the affairs of California and Oregon, without subjecting the citizens of those colonies to inconveniences and privations which no liberty-loving people can be expected to bear with for any great length of time. These colonies will, ere long, become States; their manufacturing and commercial power is rapidly on the increase; the capital of a large number of the enterprising cities of the Union is daily seeking investment on the coast of the Pacific; thousands of young men of intelligence and energy are annually emigrating to those countries, leaving families and friends here; the ships of our merchants are multiplying upon this great ocean; and new, extensive and important commercial relations are opening with the thronging millions of China and the Indies. We have now a considerable military and naval force stationed on the Pacific coast; we are conducting important surveys of coasts and harbors; we shall soon be compelled to establish a system for the government and amelioration of the condition of the numerous Indian tribes, whose very names were, until recently, unknown to the civilized world; a new general survey of more than one hundred thousand square miles of territory, west of the mountains, must be made at an early period, numerous land offices established, and regulations framed for their government; and we shall find it necessary to enter upon a botanical and geological examination of this vast region, for the purpose of tracing the medicinal and useful properties of a new system of vegetable life, and of developing those immense mineral resources which have already excited the enterprise of the whole world. *How can all this be done without a line of telegraph to the Pacific?*

Again: with an energy and industry which have excited the admiration and astonishment of the whole Union, that peculiar people, the Mormons, have established themselves upon a rich valley, inteprosed between the stupendous chain of the Timpanogos Mountains and the Utah and Salt Lakes. There their admirable organization, strict discipline, and general conformity of habits and opinions, have enabled them to accomplish more in four years, than could have been accomplished in fifty by a people analogous in principles and habits to the great mass of the people of the United States; and we are almost constrained to believe that Providence has guided these people into this isolated region, for the express purpose of subduing a wilderness which would have appalled any other class of American citizens. Already have these people met in convention, and framed a constitution, with the view of applying, at the next session of Congress, for admission into the Union. In a few years more, groups of settlements and civilization will be scattered through the three "Parks," Bear River Valley, the delightful vallies towards the sources of the Missouri and Columbia, and along the western base of the Wahsatch chain, to the valley of the Joaquim; and the STATE OF DESERET will be surrounded by other communities, emulating it in the race of improvement and civilization. If we are to retain political connection with all these extensive and valuable colonies, how are we to do it, *save by the instrumentality of the telegraph and railway?* It is obviously impracticable; and for these reasons, every public journal, and every public man of respectability in the Union—so far as we have been enabled, after extensive correspondence, to ascertain—is decidedly in favor of taking prompt and efficient measures for the construction of these important works; and the whole people have sanctioned the policy, without a solitary dissenting voice.

A PLAN FOR ITS IMMEDIATE CONSTRUCTION.

For this portion of this article, we are indebted to Henry O'Rielly, Esq., who has studied the subject with great care and attention for some years past, and whose eminent practical ability entitles his views to the serious and favorable consideration of the Convention and of Congress. We have only to add, in introducing it, that we have ourselves traversed more than half the distance to the Pacific, and there made extensive collections of facts touching the character of the country, the trade with the Indian tribes, and the characteristics, condition and resources of these tribes; and that, in our estimation, *the scheme proposed by Mr. O'Rielly is admirably adapted*, in every aspect in which it can be considered, *to the production of beneficial results.* This, too, *we know to be the opinion of a number of intelligent persons*, who have been *familiar, for many years, with the whole western territory and its contents.*

The Congress of the Union have already authorized the construction of a line of posts from our western border to the Pacific, and directed a regiment of dragoons to be so distributed as to furnish a competent garrison to each. Of this contemplated line, two have been already built—one at the mouth of Table Creek, near St. Joseph, and the other at Grand Island, in the Platte river; and two more have been purchased—Fort Laramie, situated on Laramie's fork of the northern fork of Platte river, near the entrance into the Black hills, and Fort Hall, situated on the Lewis fork of the Columbia river. The objects which Congress had in view were to furnish protection and supplies to the emigrants and traders to Oregon and California, and to exercise a salutary restraint upon the Indian tribes. These posts are evidently situated too far apart to accomplish the purposes contemplated; for it is obvious that emigrating or trading parties if attacked fifty or one hundred miles from either of them, could not obtain relief until it was too late to be of any avail to them. As respects supplies, it is certain that no adequate quantity of them can be collected at these posts, without a very extravagant cost in transportation, and lastly, no effectual curb can be put upon the Indian tribes, when the soldiery are collected into large parties, at great distances from each other.

Mr. O'Rielly proposes that the Indian title be extinguished to a band of soil—say five miles on each side of the designed line of telegraph and railway—that palisade or brick forts with ample enclosures, shall be erected at distances of thirty miles apart from the western border to the Bay of San Francisco; that these enclosures shall be large enough to accommodate the garrison and give shelter and protection to parties of one hundred men with their animals and teams; that thirty dragoons shall be placed in each one of them; that a telegraph apparatus shall be placed in each; that a line of wires shall be constructed from the frontier to the Bay; that Congress shall advance for its construction a fair sum, in consideration of which the perpetual use of it shall be secured to the government, or that the Congress shall give himself and associates, or other competent parties, the simple right of way, with the protection herein provided, paying for the despatches of the government at a fixed reasonable rate; that a daily mail shall be carried across the continent by the dragoons, each one being required once in fifteen days, to carry the mail-bag, or drive a cart to the centre of the intermediate spaces, there exchange bags, and return; that donations of land shall be made for a limited period, to such persons, with or without families, as may actually settle upon the belt of land on which the Indian title has been extinguished; that the supplies of posts, in bread, cattle, and vegetables, shall be purchased of these settlers at a reasonable rate; that they shall be sworn not to introduce, under any pretence whatever, ardent spirits of any kind into the territories west of the State line, and east of the Sierra Nevada; that they be authorized to give employment to such members of the Indian tribes, male and female, as shall evince a disposition to betake themselves to the pursuits of civilized life; and that the commanding officer at each post, alone or with other associates, shall be constituted into a civil and criminal tribunal, to do justice between the settlers, the emigrants, the traders, and the Indian tribes, with the privilege of appeal, in appropriate cases, to one supreme tribunal, to be fixed at some point along the line.

The more we have reflected upon this scheme, THE MORE FIRMLY ARE WE CONVINCED OF ITS FEASIBILITY AND UTILITY. 1. It is of course absolutely necessary that the Indian title should be extinguished along the line of the contemplated telegraph and railway; and, moreover, it will be but an act of justice to compensate those tribes for the direct and fatal injury these works will inflict upon them, by driving out the game—their only present means of subsistence. In this particular they have already seriously suffered in consequence of the extraordinary number of emigrants and traders who have passed through their territory. If this whole system shall be adopted, a portion of this compensation to them should consist of agricultural implements and domestic cattle. 2. The *palisades* here recommended are of *easy and cheap construction.* They should be built in imitation of the traders' forts, and of those dotted all over British America by the Hudson's Bay Company. The soldiers themselves can construct them, *without any cost whatever to the government.* 3. Of course they should be large enough to contain, in case of necessity, from one to two hundred persons. One hundred individuals are as many as can traverse the plains and mountains with any convenience, and parties should be limited to that number by law. Occasional jars with the Indians must, of course, occur. In these cases, a place of security, such as these palisades, may be necessary as a resort for the settlers until peace is restored. 4. Thirty soldiers are ample protection to each other; and assisted by emigrants and settlers, can overcome a war party of six hundred Indians with ease. This number of trappers have been known to take beaver in the Blackfoot country for months together; and this is the fiercest and most implacable tribe between the Mississippi and the Pacific. A party of twenty men has always been considered strong enough in any region south of the valley of the Yellowstone.

5 and 6. With a telegraphic instrument at each of these posts, a break in the wires could be discovered in a very brief space after it occured, and the re-connection can be made in an hour or two at any time. The posts would generally be secure, for Indians do not *work* to annoy their enemies; and *in all our travels* we have *yet to see a male Indian chop a sapling down four inches through!* Besides, there is no better reason for anticipating an injury to a telegraph line than to the forts of the traders; and an injury to the latter has very seldom occurred, although nothing is more common than for a party of a half-dozen white traders to remain at a fort for weeks together, alone, with large supplies of goods, and even alcohol, the Indian's nectar. Indians are like all other people; unless wantonly aggravated into passion, they duly consider their own interests.

7. It would probably be preferable for the government to advance a round sum at once, to aid in the construction of this line, instead of paying perpetually, even at half the usual rates, for its dispatches. It seems to us that, at very moderate rates, the tax upon the government would be very considerable. However, this is a matter for the deliberate consideration of Congress. Whoever constructs it would probably prefer that nothing should be advanced, as their profits would be enormously enhanced.

8. This system for *carrying the mail across the continent* is one which will *cost the government nothing*. Upon any other plan of carrying the mail, the contractors must be paid a large sum, and the carriers must be furnished with a competent guard. Five thousand dollars per trip for car-

riers and guards seems to us a moderate estimate for the cost of a mail on the usual system. A semi-weekly mail would cost, at that rate, $520,000 per annum. With the arrangements herein proposed, *a mail will cost nothing*, and the soldiers themselves will be absolutely benefited by this amount of active service.

9. The system of donating lands, until such time as the line of the telegraph and the contemplated railway shall be sufficiently populated to protect themselves and property; to furnish supplies and relief to emigrants and traders; to furnish the means of subsistence to those who shall construct the railway; and to give to such of the Indians as may seek it, profitable employment, is surely a line of policy recommended as well by its economy as its philanthropy. Already the wretched tribes who wander over our western plains are beginning to suffer in consequence of a deficiency of game. That deficiency has been brought about by our own policy. The marching of troops to Santa Fe, during the war with Mexico, and the enormous amount of emigration since, have almost driven the buffalo entirely away from their original haunts; and all the tribes whose hunting grounds lie south of the latitude of 42 degrees, are absolutely in danger of outright starvation. Hence the ferocity of these tribes at the present time, and their constant attempts to murder and rob travelling parties. We say that the conduct of these Indians is rational and justifiable; and that it is not only their right, but it is the solemn duty of the government of the United States to make judicious and permanent provisions for their sustenance, and their advancement in the domestic and useful arts, in morals and in religion. The system which is herein recommended has been acted upon by the Catholic missionaries from the beginning—has been practiced by the Hudson's Bay Company for the past two centuries—and has been adopted, for many years past, in different portions of Mexico, and in California; *and it has uniformly operated beneficially to the Indians themselves, and profitably for the whites*. Not the least of the advantages of this system is the protection and encouragement it will afford to those pious missionaries who, with a zeal and perseverance worthy of all praise, have for years past labored for the improvement and conversion of these unfortunate people; but whose labors have effected so little, in consequence of the deficiency of the means of furnishing the Indians profitable occupation, and the inadequate protection afforded them by the government. The Indian race is evidently destined to extinction. This is the natural result of the contact between civilized and savage people. But we may ameliorate their condition; we may provide a system for their comfortable maintenance; we may cultivate their moral and intellectual faculties; and we may contribute, in a number of ways, to their peace and happiness here, and their hopes hereafter.

COST OF A LINE TO SAN FRANCISCO.

[Estimated by the St. Louis committee.]

The distance from St. Louis to the mouth of the Kansas, or to Fort Leavenworth—crossing the river, so as to furnish facilities to the valley of the Missouri—would be about 438 miles; from Fort Leavenworth to the South Pass, 900 miles; and, from the South Pass to the Bay, 1036 miles—making a total distance of 2374 miles. At the rate of $150 per mile, the whole cost of a line from St. Louis to the Bay, will be $356,100. But, as a battery and instruments must be furnished to about eighty officers upon the line, and, as there is a portion of the route bare of timber, a fair estimate will probably swell this sum to $400,000.

A branch line would, of course, be needed at an early day, to Santa Fe, to the new Mormon State of Deseret, and to Oregon. The shortest line for a branch to Sante Fe, will be from Fort Laramie, on the north fork of Platte river—550 miles. This will cost about $90,000. To the new Mormon State, the branch line must be taken from the Soda Springs, in the northern bend of Bear river, a distance of about 300 miles. This will cost about $50,000. The shortest branch line to Oregon, will be from the northern bend of Humboldt river, to the mouth of the Walla-Mute—425 miles. This will cost about $68,000. The total cost of the whole system proposed, for the present, and in the future, $608,000.

REASONS WHY THESE LINES SHOULD YIELD FULL DIVIDENDS.

1. We have now in the Pacific, upwards of three hundred and fifty whaling ships, the owners of which are compelled to communicate with them by letter around Cape Horn, or across the Isthmus of Panama. Other productive sources of trade are rapidly opening upon that great ocean, which must furnish employment to a large number of other vessels, both with steam and sails. Their present communications are delayed from one to six months. It is, therefore, certain that these parties will find it their interest to use the telegraph.

2. There are, at this time, more than seventy thousand citizens of the United States in California, and their number is so rapidly augmenting, that if Congress shall authorize the *extension of the telegraph at its next session*, its completion in fifteen months will probably find a population there of one hundred and twenty-five thousand persons. Nearly all of these individuals are connected as partners or employees of capitalists in the United States, who are constantly in need of information, to enable them to ship to that country supplies of goods, mining implements, &c. All of them, too, have left near connections, by blood in the United States. Is it credible, that all the parties thus interested will await the tardy movements of a mail across the Isthmus, when the telegraph affords the means of instant communication? Certainly not.

3. The population of Oregon is upwards of twenty-five thousand persons. They, too, have left in the Union, relatives and partners in business, who are anxious to communicate with them with celerity and certainty.

4. The new Mormon community, in the vicinity of the Great Salt Lake, numbers at this time over sixty thousand individuals, and this population is augmenting at an unprecedented rate. Their business and other connections in the Union, and on the Pacific, will render the telegraph a thing of neccessity to them.

5. The line will pass by some of the posts of the fur traders. This trade now amounts to $300,000 per annum, and large sums are expended by the traders in sending expresses to St. Louis every season. Of course, they will avail themselves of the telegraph to dispense with the expresses.

6. The trade to Santa Fe and New Mexico, is, at this time, estimated at about $1,000,000, and this trade is rapidly on the increase. The necessities of business will compel the use of the telegraph in that direction.

7. The border trade with the Indians is now very considerable, we all know; but we have not been enabled to collect sufficient data upon which to make an accurate estimate of it. The telegraph will be needed in this trade.

8. Twenty years will not elapse—perhaps not three—before a new territory will be organized between our western border and the Rocky Mountains. The proposition to do this has been already introduced into Congress, upwards of five years ago. When this is done, a pastoral population will fill that vast region, and they will need the telegraph.

9. Other settlements will be immediately formed in the Bear River Valley, the Three Parks, at Pierre's Hole, Jackson's Hole, and in numbers of the rich valleys scattered along the vicinity of the line to the Bay, and they will need the telegraph.

10. A large naval force must in future be kept up on our Pacific shores, to protect the commerce of California and Oregon; a considerable military force must be stationed in California, Oregon, New Mexico, Deseret, and along the line of travel from the frontier to the Pacific; and an increase in the military force in the present western territory, is inevitable. To communicate with all these, a telegraph is indispensable. A single overland despatch of the government will cost about $15,000. When it is considered how many of these must be sent in the course of a year to the various points mentioned, there can be little or no doubt that the expense of sending these communications for a single year, will exceed the actual cost of a telegraphic line.

11. The introduction of white settlements into the western territory, and into Oregon and California, will render a new and enlarged system of Indian intercourse absolutely necessary; and to regulate this intercourse, numerous agents must be scattered through those regions. Is it not obvious that in the delicate relations which will exist in respect to so many tribes, the instant communication by telegraph is indispensable; otherwise wars and bloodshed may be carried on for months together, before the central authority can receive information of the fact, and send military force to quell the disturbances.

12. The lands, including about 600,000 square miles, east and west of the mountains, must be surveyed ere settlements of any size are permited to be formed upon them; and topographical, geological, and other scientific expeditions will have soon to be made. All these services will require a large body of government agents, with whom

frequent and prompt communication will be a thing of necessity.

For all these reasons we are constrained to believe it is the duty—as we have no doubt it will be the pleasure—of the next Congress of the Union, to authorize the extension of a telegraph line to the Pacific. For the present, a single line to the Bay may possibly suffice; but we incline to the belief that it will be decidedly preferable to complete the whole of the branches enumerated, as soon as the direct line shall be perfected.

PROBABLE PROFITS OF A LINE FROM THE MISSISSIPPI TO THE PACIFIC.

We will speak first, *of the direct line from St. Louis to the Bay of San Francisco, and then of the branches herein proposed.*

The despatches of the government to the military and naval forces stationed in California, together with its communications with the local government there, the Indian agents, the land officers, the custom-house officers, the postmasters and mail carriers, and the topographical and scientific parties engaged in the survey of the country and the adjacent coast, are very difficult of calculation. We will, however, make an estimate, which we think will be admitted by all to be within bounds:

1. Suppose the Government sends a single despatch per month to our naval force on that coast, containing thirty words. This, at the rate of charge usual on telegraphic lines, would amount per anuum to $93 60. If a single answer, containing thirty words, is received by the Government, this will be, in one year, $93,60 more.

Suppose these despatches and answers contain sixty words, the cost will be - - - - $374 00
Suppose there are two despatches and answers of sixty words per month - - - - 748 00
Suppose there are four despatches and answers of sixty words per month - - 1,496 00
Suppose there are eight despatches and answers of sixty words per month - - 2,992 00

That this amount of matter will be sent to the naval force alone, can scarce be doubted; and, indeed, we think the reports—if to be had—will show not only this number of words, in a year, but *twenty times* as many.

2. Let precisely the same calculation be made for the despatches sent to and from the military forces in California, and the amount will be - - - - - - , - 2,992 00
3. The same calculation as respects the Indian agents will yield - - - - - - 2,992 00
4. The same as respects the land officers will yield - - - - - - - - - 2,992 00
5. The same as respects the post-office will yield - - - - - - - - - 2,992 00
6. The same as respects the local government of California will yield - - - - . 2,992 00
7. The same as respects the custom house will yield - - - - - - - - - 2,992 00
8. The same as respects the surveyor of public lands - - - - - - - - 2,992 00
9. The same as respects scientific surveying parties - - - - - - - - - 2,992 00

Total - - - - - $26,928 00

Double the number of these despatches, and the amount of words in them will yield $52,856 00

1. There are in the Pacific upwards of 350 whaling vessels. Suppose the owners send one despatch per month, and receive one answer, containing thirty words, or fewer despatches with more words, the amount will be . - - - - - - - - 187 20
2. Double this number, and the amount will be - - - - - - - - - - - 374 40
3. Treble it, and the amount will be - - 561 60
4. Quadruple it, and the amount will be · 648 80

And this last number is a very low estimate to make of profits from this branch of business.

From the 70,000 men in California, suppose that a single despatch of ten words from each man, shall be sent to the Union in one year, and a single answer of ten words given, the amount will be - - - 364,000 00

It may be that not more than half the people there might use the telegraph; but the cost of a single despatch of ten words is only $2 60, and certainly those who do use it—including merchants and mining companies—will send the number of messages here calculated.

5. Double this number of words, either by the quantity or number of despatches, and the amount will be - - - - - $728,000 00

1. Suppose those engaged in the border trade with the Indians shall send one despatch of ten words per month, and receive as many, this will yield - - 13 20
2. Double this number of messages - 26 40
3. Treble them - - - - - - - 39 60
4. Quadruple them - - - - - - 52 80

1. The several companies of fur traders certainly send as many as five messages of thirty words per month, and receive answers. This would yield - - $264 00
2. Double this number of despatches - 528 00
3. Quadruple them - - - - - - 1,056 00

1. The new territory, in contemplation, between the frontier and the Rocky Mountains, will very soon contain 20,000 inhabitants, if this telegraph and railway is constructed. Suppose one in five hundred of these people send a single message in two months, and receive answers, containing thirty words, the amount will be . . $26 40
2. Double them, ... 52 80
3. In this territory, the Government must have a military force of several regiments.—Suppose two despatches of thirty words are sent to them per month, and two answers received. This will be - - 158 40
4. Double them, ... 316 80
5. Quadruple them, ... 633 60
6. This territory must be surveyed and sectionized. If a like number of despatches be sent to and received from the surveyors, this will yield 633 60
7. A number of other Indian agents must be placed in this territory. At the same rate this will yield 633 60
8. The despatches sent to and from the local government of this territory will, at the same rate, amount to 633 60

These calculations are evidently far below the mark; for the despatches now sent to this city, to be mailed for Fort Leavenworth, cost several thousand dollars.

9. In addition to all these sources of profit on the Mississippi and Pacific line, we must estimate the business on the first section of it, already alluded to, between St. Louis and Fort Leavenworth; and this will yield, there can be no doubt, ten per cent. upon the cost of that section. Say . . 5,000 00

BRANCH LINE TO SANTA FE.

The branch line from Fort Laramie to Santa Fe will cost $90,000 00

1. If the Government sends one despatch per month to Santa Fe, to the military force, and receives an answer of thirty words, it will amount to 98 00
2. Double these despatches, or the amount of their contents, ... 196 00
3. Quadruple them, ... 392 00
4. The same as respects Indian agents, . . 392 00
5. " " land offices, . . 392 00
6. " " post-office, . . 392 00
7. " " the local government; 392 00
8. " " the custom houses, . 392 00
9. " " surveyors, . . 392 00
10. " " scientific surveying parties, ... 392 00

Total, . . . $3,136 00

11. Double the number of these despatches, $6,272 00
12. The present trade with New Mexico amounts to $1,000,000. Certainly such a trade will yield to the line a revenue of . . $10,000 00

BRANCH LINE TO THE STATE OF DESERET.

This line will cost the sum of . . . $50,000 00

1. Here, too, the Government must have full as much intercourse with the military, Indian agents, surveyors, &c., as with California and New Mexico. This will yield, for one despatch per month, and answers to them, the round sum of about . . 5,000 00
2. Double the number of despatches, . 10,000 00

3. Quadruple them, ...	20,000 00
4. With a present population of over 70,000 persons, the commercial necessities of the State will yield, say	6,000 00

BRANCH TO OREGON.

This line will cost	$60,000 00
1. The Government despatches here, too, will yield, if sent to the military and naval forces, the Government, surveyors, agents, custom house, &c., once per month, .	$10,000 00
2. Double them, ...	20,000 00
3. Quadruple them, ...	40,000 00
4. The commercial and private necessities will yield, say, ...	10,000 00

We have furnished the complete data from which the reader can make his own estimate respecting the probable profits of these lines. Of course it is impossible for us to know what number of despatches will be sent along these lines by the government and private individuals. Each reader, however, can estimate that for himself, and come to his own conclusion from the data we have furnished. The calculations are made from the usual rates of charge on telegraph lines, and moreover these rates are very cheap.

The *influence of the electric telegraph upon the progress of civilization*, is a theme upon which we should delight to dilate, if we could do so within the space which we have limited ourselves to in the preparation of this article; but we are reluctantly compelled to forego that pleasure until a future occasion shall be offered.

In conclusion, we shall only add, that the rapid interchange of thought in an extended empire like ours, gives the same compactness and homogenity to our social and political systems which result in communities confined to a smaller space; that intellectual activity and moral power are rapidly augmented by it; that every department of science and knowledge receives from it a decisive impulse; and that it constantly and steadily tends to that uniformity of manners, habits, opinions and sentiments which are essential to the suppression of wars and divisions, and to the permanent peace and security of the world. With an electric telegraph penetrating into all our populated and business districts, frauds in trade will be suppressed—equality will be produced between those who contract—exchanges will be indefinitely multiplted—industry and the arts stimulated—crime comparatively suppressed—agriculture and commerce improved—and all those conditions which are essential to the security and prosperity of a well-ordered society produced. With a lightning communication across the continent, the hourly interchange of sentiments and opinions with our brethren upon the Pacific coast, will keep alive in their hearts and minds the remembrance of the happy homes of their youth, and of the great and glorious system of polity under which they grew up to be free American citizens; the new relations which they are forming with strange people will not obliterate the manly characteristics of the republican character; they will never entertain the idea of separate political existence; and they will prove to be efficient pioneers in that great system of liberty and civilization which Divine Providence has so distinctly marked out as the mission of the people of the United States.

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We are gratified to learn that Mr. O'Rielly, animated by that indefatigable energy, decision, and perseverance which have established for him an enviable reputation for usefulness and public spirit, is determined to build this Telegraph section—the first span in the magnificent design which he has labored for years to accomplish—a line of lightning to the Pacific; and if the Congress of the Union shall respond to the universal public sentiment of the country, this splendid work—the pioneer of the railway—will be consummated within eighteen months to come. When this is done, the line from St. Louis to the bay of San Francisco will be the most profitable line upon the continent, and the best stock in the civilized world.

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At a subsequent stage of the proceedings the following resolutions were severally moved and adopted:

BY THE HON. SAMUEL TREAT: *Resolved*, That as an important means, as necessary and preliminary to the construction of such railroad, it is the first duty of the American Congress, immediately on its assembling together, to make provision for the establishment of military posts from the western confines of the Western States, to the Pacific Ocean; that these posts should be established numerously in all proper places not far distant from each other; and that civilized and productive settlements should be encouraged around them by liberal sales and grants of public lands, and by ample protection to the settlers.

Resolved, That the Congress of the United States be memorialized to construct or authorize the construction of *a national line of telegraph* along the line which may be determined upon by national authority for the great railway to the Pacific. Said line of telegraph to be constructed in connection with the military posts named in the preceding Resolution, and to be pushed to completion as early as practicable.

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That the Congress of the United States, to which the following pages have been inscribed by the author, will act with promptitude and efficiency upon the subject, there can be little doubt; *and that a system* which has been sanctioned and approved* with such unexampled unanimity by those who, from their *locality*, *association*, and *pursuits*, must be the most *competent judges*, will receive from that body respectful consideration, is surely to be anticipated.

L. M. KENETT,
Chairman of the Committee of Twenty-five.

ST. LOUIS, *Nov.* 25, 1849.

NOTE UPON THE FOREGOING ESTIMATES OF COST AND BUSINESS.

The foregoing is copied from the Report published by the St. Louis "Committee of Twenty-five," as prepared by John Loughborough, Esq., of the Missouri Bar, and is embodied in the voluminous document published by that Committee, chiefly between pages 61 and 74; showing the objects and opinions of the "National Telegraph and Railroad Convention," at St. Louis, in 1849.

The rapidly increasing value of the multitudinous interests clustering around the American and Asiatic coasts and among the Islands of the Pacific Ocean,—interests raipidly increased beyond all anticipation since the foregoing estimates were made in 1849—must satisfy readers generally that the amount of *Telegraph business*, on the proposed line to the Pacific, will greatly exceed these estimates:

While, on the other hand, the *construction and organization* of a Telegraph Line across the Continent, with the degree of solidity and excellence which should characterize a work of such immense importance to the United States and to the World at large, would doubtless cost more than is estimated for ordinary lines through well-settled regions:

But the *more perfect and reliable the Line*, THE GREATER WOULD BE THE AMOUNT OF BUSINESS; and no investment would pay better than the additional sum required to render the line as permanent and accurate as human skill and energy can render it.

H. O'R.

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* Referring to Railroads as well as Telegraphs.

Atlantic and Pacific Telegraph.

SOME EXTRACTS FROM

PROMINENT WESTERN JOURNALS

OF 1847-8-9-50-51, &c.

RESPECTING O'RIELLYS PLAN

FOR COMMUNICATION ACROSS THE AMERICAN CONTINENT.

[*From the Louisville (Ky.) Journal, edited by Geo. D. Prentice, Esq.,*]

Mr. O'Rielly's Project for a Telegraph to the Pacific.—Mr. O'Rielly re-publishes the subjoined Memorial to the Congress of the United States in the St. Louis papers. Mr. O'Rielly can accomplish whatever is possible; and no man is a better judge of what is possible.

[*From the St. Louis Reveille, Dec.* 17, 1847—*then edited by Joseph M. Field, Esq.*]

We think that the present is a fitting moment to make a suggestion, which but a year since might have been considered wild, but which the extraordinary march of events, above all, the arrival of Mr. O'Rielly with his wires on the banks of the Mississippi, now may recommend to the attention of thinking minds. We would suggest that the only natural termination of the telegraph line west, should be the mouth of the Columbia river, and that it ought to be extended by Government thus far, without delay, inasmuch as that the value of its services would be incalculable; that its expense in round figures, would be but, say, $600,000; and that it could actually be put in operation in *six months*! Is this last statement too wild, either, when we reflect that the energy and systematized method of O'Rielly has put in construction seventeen hundred miles of telegraph *since last June*; in spite of persecutions and annoyances which could not attend this further enterprise. Are there natural obstacles to be overcome? We would simply say that O'Rielly set his line in operation over the Alleganies in *the depth of winter*; further, that in the Pacific enterprise it might be done before winter! Send an early corps of men forward to commence eastward, from the South Pacific; and by the time they reached Wallamette, the corps from Independence should have linked wires with them at their starting point in the mountains. We only are showing that, judging from what has already been achieved, the work *could* be done in the time named. Further, if it were placed in Mr. O'Rielly's hands, we feel that the work would be done: however, give a year to it, if necessary. The transportation of material might be somewhat more expensive, but the difference would be no serious consideration. Following the river valleys, there would be no scarcity of timber; and say that Indians interrupt the connexion twice, thrice, or a dozen times, the inconvenience would be trivial, comparatively; the same with storms. We have mounted companies on the Plains, &c., and how better could they be employed than in protecting the wires, especially as doing so they would save themselves, mainly, from harsher labor among the tribes?

But should government, apathetically, decline this enterprise, would it not *pay*—that's the word—would it not *pay*, even should the work be confined to the merchants of Boston and New York? These cities have immense interests at stake in the Pacific. China merchants, oil merchants, ship owners, generally; the traders to the Islands, Oregon, California, &c.,—would not a line of telegraph to the mouth of the Columbia be of the highest importance to them? especially, as packets, even now, are making the Columbia a centre, while this project would at once connect itself with steam associations, bringing the whole Pacific shores within twenty days' reach of our Atlantic cities —Whitney's enterprise, in part, accomplished,—and all at the expense of $600,000!

Looking at what has been done, we regard the feasibility and utility of this plan as already demonstrated. For the present, it might rest here, but would it continue to do so? Would not the next dash be to connect the Wallamette and Sacramento valleys? Would not San Francisco, Monterey, Los Angelos, San Diego, soon be linked, and the returning line be found, on its way from this last point, flashing up the Gila valley, once more crossing the mountains, striking the Del Norte below Santa Fe, and eventually completing the grand circle, by linking itself, at the capital of New Mexico, with that earlier line which should already have connected New Mexico with Missouri? This is certainly *extensive*; but in support of it we repeat—*O'Rielly has erected seventeen hundred miles of telegraph since last June!*

[*From the St. Louis Daily Union, Dec.* 28, 1847—*then edi- by the Hon. Samuel Treat.*]

TELEGRAPH WESTWARD.

Whilst Government is arranging steamers for rapid communication with our distant citizens, it seems to be proper enough that Mr. O'Rielly should be invited to completely annihilate time and distance, so that the Oregonians may feel the common impulse of their brethren on this side of the Rocky Mountains. The project does not appear so visionary as did two years ago the proposition to connect the Atlantic, the Lakes, and the Mississippi. Its immense importance to the Government may be readily appreciated but it should also be borne in mind that our Pacific commerce is not only of immense value at this time, but is augmenting with great rapidity. The Boston and New York merchants would gladly avail themselves of such means of hearing from their ships on far-off voyages and New Bedford would thus hold frequent *chats* with her whalemen. Lightning has now become a necessary attendant on commerce, and it should traverse our continent on errands of love, profit, and patriotism.

The fears which once agitated Statesmen, as to the perpetuity of our Republic should its boundaries be enlarged, are now mostly dispelled by the triumphs of art. Although our national domain now stretches to the Pacific on the west, and the Rio Grande on the south, it is not more difficult of access, nor the Territories and States, farther apart, for all practical purposes, than in 1789 when nearly the whole American population was along the eastern slope of the Alleghanies. The fears of many Eastern statesmen at that day led them to oppose every movement tending to open the Mississippi Valley to civilization; and during Washington's administration, the hostility was carried so far that the public meeting was held by the Kentucky pioneers to adopt measures for their protection. That great Western demonstration induced Washington to write a letter to the principal persons connected with it, disclosing the then condition of negotiations, and assuring them that the Government would not abandon the right to the free navigation of the Mississippi. Still the apprehension of the Eastern statesmen continued; and when Mr. Jefferson concluded the treaty of 1803, by which Louisiana was acquired, a bare constitutional majority ratified the act. At length *steam* gave new impulse to western prosperity, and brought the remote settlements of this valley into intimate intercourse with each other and with the East. Hardly had the distance from Fort Leavenworth, New Orleans, and Chicago, to New York and Boston been practically reduced to a few days' journey, before lightning came as the harbinger of newer and closer connection The "winged thoughts" of the poets were no longer the mere fancies of bards, but sober realities. The most distant regions of our republic were made neighbors, and those thousands of miles distant could hold familiar converse with each other. This last great achievement should remove all doubts as, to the safe extension of our national boundaries.

It is now universally admitted, that *a new State is soon to exist in Oregon*; and generally confessed that *California must be permanently ours*. The Government, in view of these important facts, has employed steam as an agent of its will, in binding these remote regions closely to the Republic, and giving them rapid and easy intercourse with the older States of the confederacy. Next year, steam vessels will bring New York within six or eight weeks communication with the mouth of the Columbia—a shorter voyage than between Boston and Savannah in 1780. *A Telegraph line in continuation of that now constructed to St Louis*, would completely annihilate the distance, and the Government at Washington be in instant receipt of news from our Pacific coast The line should precede the contemplated railroad, and can be finished in one or two years. It must necessarily be a government enterprise, and would give to our country early and firm hold on the rising commerce of the Pacific. It is the duty of those entrusted with public affairs to take a far-sighted view of the mission and future destiny of the United States. In the progress of events, if we are not blind to our power, this land may rival in greatness and prosperity—nay, surpass—all that the world has yet seen. Those who urged the settlement of Oregon, and gave impetus to the wave of emigration thitherward, understood well the mighty results of which such events would be the precursor. The exploration of LEWIS and CLARKE under Mr. JEFFERSON, and the later labors of FREMONT, have all heralded the same consummation. The persevering efforts of BENTON and LINN, to open Oregon to civilization, the early writings of the former when a St. Louis editor, and his subsequent exertions in the Senate, as well as the unremitting enthusiasm of the latter, have yet to be viewed in the light of impartial history, and of true philosophy. The historian of this Republic will in the next century look back upon those early and discouraged efforts, as the beginning of an order of events which will then be realized in the existence of new States on the Pacific, of an unrivalled commerce with India and the Pacific Isles, and of immediate communication between all parts of this extended confederacy. The statesmen of the West have gone hand in hand with the improvements of science and art; and scarcely have they pointed the way to new and glorious events, before steam and lightning have appeared to render bright and easy the road marked out by their wisdom.

It is in this broad view of the future, as it is now opening to our Republic, that we speak of extending the Telegraph to the Pacific coast. The "times and the man" hav already come for the fulfilment of so vast a design. O'RIELLY has brought the lightning to the old frontiers of the Union: let him carry it forward to the Pacific Ocean.

[*From the St. Louis Reveille*, *Dec.* 23, 1847.]

ATLANTIC AND PACIFIC TELEGRAPH.

Since mention has been made of continuing the telegraph from this point to the Pacific, we have heard many objections urged against its possibility, but none, we think, which presents a serious obstacle, where determination and energy attempt the accomplishment of the object. "It would be impossible to obtain timber," says one. Follow Fremont in his explorations on the Oregon route, and see how clearly *possible* it is to obtain *plenty* of timber, over the whole way, and that of the best character, at a comparatively short distance from the direct line of travel, at any point.

The trees would fall on the wire and break the connection; at such distance from posts, too, that it would be impossible to keep it continually clear."

Here is another's objection, which may be urged against every mile of telegraph already constructed; yet the agents contrive, with very little difficulty, to keep the connection open from New-York to St. Louis, and much of this route is through heavy timber. Our mounted men, onnected with the Oregon posts along the route, might easily keep the wire clear of obstructions, nad at the same time perform the duty of protecting emigrants and traders from the Indians.

"Ah, well," says a third, triumphantly, "if the posts escape the prairie fires, the Indians will be sure to destroy them for the purpose of obtaining the wire."

This prairie fire, which is so confidently advanced as an insurmountable obstacle, occurs but once a year, and then is so rapid in its course that a single isolated post is in very little danger of destruction from its force: the outer surface may be burned, or slightly charred, but the flame never lingers long enough in one spot to totally destroy it. As for the Indians, a few lessons in the way of punishment, would check their depredations upon the line. The wire found in their possession would always be an evidence against them, and one which they could not use without discovery; for it is not a commodity which Indian traders carry into the country.

The common exclamation against the project is, that it is *visionary*. This word is often advanced as an argument against any scheme of magnitude, and frequently men of sense, as well as the ignorant, indulge in the expression, without taking trouble to examine whether it really is what they pronounce it. We need not go further for an illustration of this fact than the triumphant progress of the telegraph to this city. The conveying intelligence to any great distance was at first pronounced *visionary*; but this great means of communication has demonstrated its power by its action, and minds unable at first to comprehend it, have been so far enlightened, by proof of its capacity, as to yield an acknowledgement that, though to *them* at first a vision, yet to the discoverer, and to scientific minds who comprehend the subject, a magnetic telegraph was a *reality*. Henry O'Rielly, Esq., has clearly demonstrated that it may be successfully carried clear across the continent of America; and the best evidence of the possibility is the fact that at this moment the shore of the Mississippi is in telegraphic communication with the Atlantic! The untiring energy of an individual, in the face of human opposition as well as natural obstacles, has extended the telegraph, since last June, over a distance of *seventeen hundred miles*! A great portion of these lines, both between this point and Cincinnati, and around the northern lakes, runs through almost as wild a country as the territory lying between this point and the Rocky Mountains.

Mr. O'Rielly, on his route to the Pacific, would find no difficulty comparable with the crossing of the Missisippi We repeat, the enterprise is called for, is, practicable, is politic, is economical; that $600,000 will accomplish it; that it can be done during *one summer*; and that the talk about Indians, &c., is the only *dreamy* part of the matter. The savages of the plain will play fewer tricks with the telegraph than have been already practised by the civilized speculators of the seaboard.

[*From the St. Louis Reveille*, *Jan.* 1, 1848.]

OREGON TELEGRAPH.

The "*Union*," of this city, the other day, embraced the project warmly and eloquently, regarding the question as only one of *time*. We have shown that the work, once properly put in hand, can be done in one summer as well or bettor than in two; and the question of time, therefore, can only be as to when the work shall be commenced. It is hoped that the government, in view of the immense interests at stake upon the Pacific, will, by next spring, authorize the immediate prosecution of the work; but should the enterprize be declined or deferred, as we said in our first article on the subject, it will be no harm to examine how far it might be made to *pay* as a private project.

If our memory serves us, we have, of whalemen, merchantmen, men-of-war, coasting and trading vessels, some five hundred in the Pacific; few of which but would, during the year—if not from the mouth of the Columbia, from the Sandwich group, or other points in communication with the mouth of the Columbia—have deeply important occasion for corresponding with their principals along our Atlantic coast. In addition to the mercantile and Government despatches—the latter, how frequent and grave in their importance!—how many, many times would love and friendship, and mere amusement, avail themselves of the electric medium? Would not the fleets in the Pacific, of *all nations*, avail themselves of the wires in corresponding with Europe? To leave the bosom of the ocean, how many messages of trade and kindness would there be exchanged between the Oregon settlers and our Western States? Steam connection between Oregon and California!—and what pride and pleasure would not the unseen thrill of the wire convey to and from the Californians also! Would the *Hudson's Bay Company* be insensible of the value of this mode of communicating with Canada? Would not all their vast home transactions be conducted, in their own cypher, along this new convenience? There is steam between Vancouver and *Sitka*, the chief factory of the Russians on the north-west coast. When we consider that from this point is kept up a regular communication with the imperial government, and that, to do this, they have to encounter the perils of the extreme north Pacific, and then, landing at Ochotsk, travel over land *seven thousand miles*, when we consider this, does it appear improbable that even these despatches would find their way along the wire to Boston, thence to be forwarded, though the Russian Consul, by steam, to Europe? Coming nearer home, how many messages would be received in this city, during the year, from Fort Laramie, that centre of the mountain trading and trapping interests? How many messages would be sent back, from certain points, by emigrants and travellers along the route? All this may be considered *idle* by many, but at any rate there can be "no offence" in it. We think that we have demonstrated the *chance* for the original one thousand messages, each way, and also the chances for *as many thousand more* as would cover the expenses of operating, fixtures, repairs, right of patent, &c., &c. We are not now discussing the protection of the line from Indians, and what not; but we have a regiment of mounted rifles, originally designed for similar service, and it cannot be long before they may be employed as was at first intended.

(From the St. Louis Daily Union, May 2, 1849.)

COMMUNICATION WITH THE PACIFIC.

The discovery of the gold mines in California, and the large influx of population there, consequent upon that discovery, have aroused public attention to the importance of speedy communication between our Pacific territories and other portions of the confederacy.

Railroad and Telegraphic communication with the Pacific transcends in importance all other questions now before the country, and ought to be discussed in every possible form, so that public opinion may be fully matured and without unnecessary delay. That feature of Col. BENTON's plan which includes the Electric Telegraph, must not be overlooked. The instant transmission of thought from us to our California brethren, and back from them to us, is an essential element of that great system of works which is to bind together, indissolubly, the various parts of our vast confederacy. With the energy of such a man as Mr. O'RIELLY, the telegraphic part of the enterprise can be accomplished within two years, and so managed as to carry with it other public conveniences of great "pith and moment."

The thousands who are now hurrying to our Pacific domain, with earnest thoughts and fond affections for the home they leave behind, can desire no greater boon than that the republic should furnish them with the means of an *instant interchange of sentiment and information* with their friends and kindred in the States. On the Atlantic coast are now, and for years will be, the maritime enterprise and capital by means of which this nation is to control the commerce of the Pacific. How important, then, that the Atlantic merchant should be placed in instant communication with his factors in California and Oregon, and with his sailors and ships on that distant coast! How necessary, too, for *the Government*, to learn promptly what is occurring in so remote a territory, whither are thronging thousands from all portions of the world!

This scheme is a glorious one—and yet how like a fairy tale! When Col. BENTON suggested, thirty years ago, that the future route of Asiatic commerce would be across the American continent, his essays fell on listless ears. No one caught up those early hints, or urged them on the public mind. They seemed the day-dream of overwrought imagination—beautiful in fancy, but, alas! without feasibility or substance. Now, steam and electricity have solved the problem beyond a lingering cavil. That vast conception is soon to be realized. the continent to be spanned, the wealth of the Indies to be poured through the gorges of the Rocky Mountains, and down their vast eastern slope to the Mississippi river. Aye, more! a few days will suffice for a journey to San Francisco, and a few minutes for intelligent converse with the inhabitants of that remote region. Our destiny as a nation is almost incomprehensible.

By the obstinacy of a neighboring power, California has been forced into our possession, as if to put within our reach, and under our control, those great influences which are to determine the future commerce of two continents, and the civilization of Asia. After the lapse of many thousand years, civilization, in its continuous journey westward, marching onward with increasing power and vitality, has begun to look from the shores of America, across the vast deep, to the coast of China, the seat of the most ancient yet lifeless form of religion and intellectual culture. The cycle is nearly completed. The ancient and the modern, the oldest and the youngest civilizations, are soon to be thrown in contact. The improvements which have been gathering strength through successive ages, dynasties, and revolutions, which have sprung from the discovered arcana of nature, and subjected even the elements to the common uses of life as man's ministering agents, the developments of profound social, moral and political truths, all these will, ere many years pass, be brought into immediate proximity and striking contrast with the stationary forms of oriental civilization. All this is a simple, plain, matter-of-fact affair. The results almost appal the imagination, yet they are not only attainable, but by the simplest means.

It is for those who can look calmly and practically at the greatest enterprises, to co-operate in this undertaking. No petty jealousy of rival statesmen, or paltry conflicts of interest, should be permitted to intervene, to retard or reject the work. Those who are familiar with the history of great enterprises, know that they are often defeated by too much confidence in their intrinsic merits, and by the rivalries of personal ambition. To the valley of the Mississippi—aye, to *the whole Union*—this is now *the greatest of public measures;* and nothing should be omitted which research or argument can do in pushing it forward. St. Louis is especially interested, and should spare neither labor nor expense in ripening public opinion for its early adoption. It is too important a matter to be suffered to slumber whilst any thing remains to be done. Proper exertions can insure speedy Congressional action, and if a Convention can contribute to that end, why not have one here as well as elsewhere?

[*From the St. Louis Union May* 3, 1849.]

COMMUNICATION WITH THE PACIFIC.

Yesterday we presented a few general considerations on this subject, and to-day we wish to refer more particularly to the proposition of Mr. O'Rielly, as recently published. In his printed proposal for extending the telegraph, he alludes to his design of going westward to the Pacific. More than a year ago, in common with other editors in St. Louis, we endeavored to show the practicability and importance of so great an enterprise. Since then great events have occurred, demanding early action in the matter. The following extracts from Mr. O'Rielly's recent circular, develop his plan. They show that he is fully alive to the progress of the times:

If any persons are disposed to be incredulous on this subject, let them remember that, but a few years ago, the project of a lightning connection between the *Mississippi river* and the *Atlantic* coast was pronounced "visionary and absurd"—that an official report from the Postoffice Department treated electro-magnetic telegraphs as a failure, so far as their applicability to the business of the country was concerned. Since that report was made, Mr. O'Reilly has put into successful operation 4,000 miles of telegraph, and has under contract 4,000 miles more [since completed] —a distance equal to the diameter of the globe, or as far as from London to San Francisco in a direct line. All this has been done by individual enterprise; and the various lines are actively employed in forwarding communications from one extreme of the Union to the other. When these facts are considered in connection with the mode of constructing the line to the Pacific which Mr. O'Reilly suggests, it is not too much to say, that the plan is not only practicable, but combines many national advantages. The men who have already constructed lines for 4,000 [8,000] miles, camping for large portions of time in the open air, can certainly carry this enterprise to the Pacific with but little difficulty. We have no doubt that as private stock it would pay handsome dividends, but its *national importance* will more than justify Congressional legislation and aid. It is in exact harmony with Col. Benton's policy, and the views of many of our wisest and most sagacious statesmen.

About a year ago, we were in the city of Washington, when the President was urging on Congress the necessity of sending a force to Oregon for the protection of its white inhabitants against the hostile Indians. We accompanied Mr. O'Rielly to the President's, when he offered a battalion of men for that service. His purpose was to send forward a party of those men who had been long employed by him in the construction of his telegraphic lines, so that they might be at the Pacific section of the future route for a telegraph, ready to engage, at a proper time, in that great lightning enterprise. They were hardy, resolute, brave, moral, and energetic, would have made good soldiers and valuable settlers, and have been on the spot to *aid in the building of a Pacific telegraph at the close of the Indian war.* The occasion did not require their military services, in the opinion of the Executive, and Mr. O'Reilly's patriotic offer was not accepted.

We mention this incident, merely to show that the plan now published by Mr. O'Rielly, has been *fully matured by him.*

The policy which has directed the repeated efforts for the organization of Nebraska Territory, is, that a pathway to the Pacific may be opened and settled, without Indian interference or obstructions to travel. As soon as that organization is accomplished, settlements will spring up at various points along the route for the accommodation of travellers, so that a journey to California and Oregon may be made without hardship or danger. The raising of the mounted riflemen looked to the same object. It has been a point with our statesmen for some time past, especially was it with Col. Benton and the late Dr. Linn, to encourage emigration to Oregon. The acquisition of California has given new force to the subject, and has aroused the public mind to the vast importance of prompt action. Hence the various *projets* for railroads to the Pacific.

We have stated that there need be no delay in the construction of a telegraph—indeed, that is the proper pioneer of the railroad. Col. Benton's plan looks to lightning as well as steam communication. Already, the Government is expending large sums for carrying the mails to California; and the shortest time in which that can be done, under the present arrangements, is fifty-one days. Now, *if the ideas of Mr. O'Rielly are adopted*, the *mails* can be taken through overland in *twelve days*, whilst there will be *instant communication also by lightning*. The amount expended by the Government in two years, under the present plan, will build the telegraph to San Francisco, establish the various intermediate stations, and involve no additional expense whatever for keeping the whole system in constant operation.

This plan is briefly this: Distribute the mounted regiment, or whatever force is designated for duty on that route, in parties of twenty or twenty-five men, at stockades about thirty miles apart. Let two mounted men start from each stockade daily, and ride to the intermediate telegraph stations, half-way between the respective stockades. Those riders can take the mails with them. Half-way between the stockades, the Telegraph Company will establish stations, at which the families of the operators, &c., will reside. Thus the distance for each dragoon to ride daily, will be only fifteen miles, if a daily mail is desired. Whilst making that short trip, they will furnish all the protection to the wires which they require—indeed, will give to this line more supervision than is now bestowed upon any telegraphic route in the Mississippi Valley. A very simple computation will show that one regiment between Fort Leavenworth and the Mountains, and another from San Francisco to meet it, thus distributed, will accomplish the whole object. These regiments have to be kept up now, and may be thus usefully employed. According to such an arrangement, they will be kept on light duty, and will give to travellers their guidance and protection. They will save to the Government the whole expense of this mail service, remove it beyond all danger or doubt, and make the route to California as easy and comfortable as any in the United States.

It can be readily perceived that, by securing in this way regular stopping places for every fifteen miles of the immense distance, the emigrants will find the comforts of which they are now deprived, and meet with friends to cheer and provide for them. At those points, where water is not otherwise to be procured, wells will be sunk for the use of those residing there, and for the emigrants *en route*. Each station and stockade will probably be soon surrounded with gardens and corn-fields, and will furnish markets at which the Indians can sell their game.

In a newspaper article all the features of this *project* cannot be presented so fully as they deserve; nor can many of the arguments in its favor be even referred to. *Its practicability cannot be disputed.* The gentlemen *familiar with the route*, to whom it has been communicated, have promptly endorsed it, not as feasible alone, but as just the thing required. A little wise action at Washington next winter, will enable this design to be commenced in the following spring, and perfected in two years, at the farthest. Future travellers across the plains will go with ease and comfort. The emigrants will communicate promptly with their friends at home, both whilst on the route, and when they reach their far-off destination. The merchants of the East can send orders for their vessels in the Pacific, and the Government direct its officers in California, New Mexico, and Oregon without delay. There will be no loss of mails, or detention for months. By letter, information can be sent in twelve days—by lightning, in an hour, or even less. The extremes will be knit firmly together, and a residence in or journey to the Pacific coast, will be shorn of all its terrors. We know of no plan for immediate communication with the Pacific, which presents so many advantages. At the close of each day's travel, emigrants can stop at a stockade or station, rest for the night among friends, and be ready to resume the next day's journey refreshed and invigorated. The nuclei of settlements will be formed along the whole route, so that Nebraska will be, in a short period, what it is designed to make it by its proposed organization into a territory. From the main line to California, branches can be extended to New Mexico and Oregon, whenever thought advisable. The aid to emigrants which would be thus given whilst they are on the Plains, would surpass all that Government has done thus far, and at no more cost than at present. The saving in mail expenditures would more than meet the required outlay. As an economical measure, it commends itself to the Government; and as the means of promoting the public policy with regard to California, Oregon, and New Mexico, it is invaluable. Why, then, can it not be undertaken promptly? Congress can pass the bill next session, and in less than two years there will be lightning communication hourly with the Pacific coast, and a regular mail running through in twelve days, beyond the reach of accidents by sea, or of enemies in war—all, too, at less cost than the present slow mode adopted.

[*From the St. Louis Daily Organ, May 4th*, 1849.]

MR. O'RIELLY'S PLAN FOR EXTENDING TELEGRAPHIC AND MAIL FACILITIES TO THE PACIFIC.

The plan of Mr. O'Rielly for securing communication between the Atlantic and Pacific overlands, is thus stated in the *Union:* * * * * * * * *

The plan here stated is one that has suggested itself to hundreds, since the question of establishing communications over the Plains and Mountains has become one of immediate interest. Such a portion of the army, as would be required for the service mentioned, could not be more usefully employed. It was the Roman system, by which the Republic conquered the world, to use the Roman soldier as a combatant in war, and a laborer and artizan in peace. When the soldier achieved the conquest by his sword, he secured it by the implements of his peaceful industry. He built towers, castles and fortifications; opened and constructed roads; and prepared the country for the reception of the cultivator, the mechanic and the merchant. Under our system, too little is required of the army in time of peace. Large bodies of it are too frequently sustained in idleness, and its officers and engineers grow rusty and unserviceable by long habits of inaction.

It is obvious to every man, that soldiers must be maintained on the line of the route across the plains and the mountains. Why not make them additionally serviceable—to an extent not easy to calculate—by requiring them to lay the foundations of the settlements, that may in no long time be made to checker the surface of a country now a wild, and, upon Mr. O'Rielly's plan, *to forward the mail and guard the telegraph?*

The plan is feasible, greatly more economical than any other conceivable plan of securing the proposed advantages, and falls in exactly with the idea of establishing a military force on that route. In fact, it is merely showing how the measures that the Government must *necessarily* take for the protection of that route, can be made, *without one cent's additional expense*, IMMEASURABLY SERVICEABLE TO EVERY INTEREST BOTH OF THE GOVERNMENT AND THE PEOPLE.

[*From the St. Louis Daily Union of January* 6, 1848.]
Then edited by the Hon. Samuel Treat.

NOW FOR THE PACIFIC!

MR. O'RIELLY also states that he is ready to complete the whole line to the Pacific Ocean, within twelve months after the passage of a Congressional bill for the purpose. Truly this is a *project* worthy of the age. A few days ago, we spoke of its immense importance to the Government and people—the union of the Atlantic and Pacific by "links of lightning"—giving to the inhabitants along the American Shores of the two great oceans, instant communication. The subject is worthy of Congressional attention.

SOME OPINIONS OF PUBLIC MEN.

As these pages were going to press, the Memorialist received some letters from Washington, copies of two of which may be annexed, expressive of the general views of all the writers; one of the writers of the subjoined letters being a member of Congress, and the other occupying one of the most prominent public stations in the Union:

(From a distinguished public functionary.)

"WASHINGTON, Feb. 16, 1852.

"HENRY O'RIELLY, ESQ.

"Dear Sir—I have your letter of the 12th, [which inclosed a Memorial,] and have perused it with pleasure, as I take a deep interest in any project calculated to facilitate the Intercommunication between the Atlantic and the Pacific States.

"If we cannot bind those States to us by Roads, Railroads, and Telegraph Lines, we may soon see them setting up for Independence.

"The 'home tie' which binds the Californian to his native State on the Atlantic, will grow weaker every day; and a new generation will soon arise, that 'know not *the East*, and *then* the ONLY BOND OF UNION will be a COMMON COUNTRY, and a COMMON GLORY, and a COMMON INTEREST, that can only be *equaled* by a free and uninterrupted communication from the Seat of Government to every part of this wide-spread Republic.

"I shall be happy to receive a copy of that part of the Report of the St. Louis National Convention to which you refer, and after I have had time to peruse it, it will give me pleasure to receive from you any verbal explanations which you may be pleased to give.

"I am, your obedient servant,

"——— ———"

(From a Member of Congress.)

"WASHINGTON, Feb. 16, 1852.

"DEAR SIR:—

"Your letter and Memorial, presenting a proposition and plan for Telegraphic and Letter-Mail communication with the Pacific, is received. The plan seems to have been well considered, and to be *complete* in the measures proposed to *accomplish the purpose.*

"You request criticism, that, if objections exist, you may obviate them, if possible. I do not see any important change of your plan that could be made, and yet leave it efficient for its object. The difficulty is, to obtain the attention and action of Congress upon it.

"Yours, truly,

"To HENRY O'RIELLY, ESQ."

"——— ———.

NORTON'S TELEGRAPH ROOMS,

177 Broadway, New York.

The attention of Telegraph Companies throughout the United States and British Provinces, is respectfully invited to my stock of magnetic and chemical Telegraph apparatus, which will be found extensive and complete.

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TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.

"I'LL PUT A GIRDLE 'ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPEARE.

VOL. I.—NO. 2. **NEW YORK, NOVEMBER, 15, 1852.** DONALD MANN, EDITOR.

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VOL. I.—NO. 2. **NEW YORK, NOVEMBER, 1852.** DONALD MANN, EDITOR.

Historical Notices of Electric Telegraphs throughout the World.

WITH this number of the TELEGRAPH MAGAZINE, we commence, and in future numbers will continue, the fulfillment of a prominent purpose avowed in our Introductory Remarks —the "purpose of collecting and diffusing intelligence, for ready and permanent reference, concerning the *Electric Telegraph System, in its origin and progress throughout the world.*" The realization of this object is essentially necessary in furthering our chief design—that of "discussing all matters affecting the operations of the Telegraph and the Telegraphers in the United States—intimately connected as they are with the interests of the American people."

On no prominent subject of public importance is there prevalent a greater deficiency of accurate information. Our care will, therefore, be increased towards furnishing such authentic data as may enable the reader to form his own conclusions, or which may at least direct his attention to the various scientific works wherein he may more fully study the history of Electricity, before deciding on the respective claims and merits of the many distinguished men of all nations who have contributed to the advancement of Electric Science, in its adaptation to telegraphic purposes.

We know well the delicacy of the task we have undertaken; but as we are influenced by the single purpose of rendering "equal and exact justice" to all concerned, and as we shall venture no assertion which is not sustained by evidence enabling the reader to judge for himself, we rest confidently in the belief that our "impartiality" will not be questioned even by those who dissent from any opinions we may express. In this connection particularly, we deem it proper to repeat an observation in our introductory address, to the effect that, "not having the vanity to suppose ourselves infallible, especially in matters about which the wisest and best men among us may honestly differ in opinion, we will esteem it an act of friendship, instead of hostility, to be furnished with any reliable statements correcting whatever errors we may commit."

The litigation which has unfortunately embarrassed the progress of the Telegraph in the United States, has had at least one good effect in exciting investigations touching the origin and progress of the system. The results of these investigations are spread over many large volumes, numbering, probably, ten thousand printed pages of law cases.

It is our aim to extract from this vast mass of pleadings and evidence, such portions of the testimony as comprise within the briefest limits the most essential truths. We will quote the testimony of many distinguished witnesses, including Professor Henry, the main figure in the history of Electro-telegraphic discovery —and including also Professor Morse, whose name is identified with the practical application of that discovery. The testimony of Renwick, Jackson, Silliman, Chilton, Gould, Walker, Gale, Norton, House, Dyar, and others, will also furnish quotas of valuable information. The writings of Steinheil, breathing an enthusiastic and appreciative spirit in all things telegraphic, will be consulted with becoming regard; and occasional reference will be made to events illustrative of the progress of the telegraphic system generally during the efforts that were long and anxiously made to excite public attention towards its importance.

With this explanation we now annex a chapter, in which Dr. William F. Channing, of Boston—a gentleman highly distinguished for scientific research, especially in the field of Electro-Magnetism—takes a brief review of the history of electric progress with reference to telegraphic discovery, showing the divisions under which that history may be properly classified. We quote from his deposition in the case of French and others *versus* Rogers and others, which involved the question between the Morse and Bain line between New York and Washington (which lines have since united under the Morse Patents):—

History of Electric Telegraphs; divided into Three Periods.

The history of the electric telegraph extends back a little over a century. *It divides itself naturally into three periods:*

The first, from 1746 to 1800, in which only *free* or *machine electricity* was known;

The second, from 1800 to 1820, when *Galvanism* also was known and employed; (Library of Useful Knowledge, Natural Phil., vol. ii. London, 1832, article, "Galvanism," page 4; also, article, "Electro-Magnetism," page 4);

And the third, from 1820 to the present time, in which *electro-magnetism* has been known and used, in addition to the preceding agencies.

In each of these periods, the number of electric telegraphs proposed and carried, to a greater or less extent, into practical operation, was considerable, as will be shown in detail in the present answer. As a first remark, then, upon the electric telegraph, it appears not to be a new invention. The art of electric telegraphing was the discovery of the last century, and the ingenious modifications in the transmitting and receiving apparatus, which have been devised at a later period, are only to be considered as improvements in that art.

It is necessary to a clear comprehension of the subject, to separate the *electric telegraph*, in its essential character, from the various *transmitting* and *indicating instruments* which have been or may be used in connection with it. The telegraph, thus defined, consists in the electric agency by which communication is effected between distant places. In this, the greatness and wonder of the invention consists. The transmitting and receiving instruments belonging to different systems of signalizing, are secondary and incidental to the telegraph, and are to be judged by themselves.

The properties or laws on which the telegraph depends are, first, the capacity of exciting or disturbing the equilibrium of electricity, or, in common language, *generating* electricity; secondly, the capacity of *insulating* it when so generated; and, third, the capacity of *conducting* it at pleasure by a circuit, longer or shorter, back to the place of its origin. Generation, insulation, and conduction of electricity are therefore words which constantly occur in the history and analysis of the telegraph. Any of the modes by which electricity is manifested may be subsequently employed as the means of noting or registering its passage in any part of the circuit.

(First period of Electric Telegraphing, using frictional electricity,—1746 to 1800.)

The history of the electric telegraph *in its first period* is thus summed up by Professor Steinheil, of Munich, in his article translated in Sturgeon's "Annals of Electricity, Magnetism, and Chemistry"—a well-known scientific periodical published in London—for the year 1839, vol. iii. page 445. The velocity with which frictional electricity is transmitted along metallic conductors called forth, as long ago as in the last century, the idea of employing it for telegraphic communications.

Winkler (Priestley's History of Electricity, p. 59) at Leipsig, in the year 1746 discharged several Leyden jars through a wire of considerable length; and on that occasion the river Pleiss formed a part of his circuit. Le Monnier in Paris (Philosophical Transactions, vol. xliv. p. 1, 290) produced shocks through a length of wire amounting to 12,789 feet. Watson (Philosophical Transactions, vol. xlv. for 1748) extended the experiment over a space of four miles, near Shooter's Hill, comprising his circuit of two miles of wire, and an equal distance of dry ground. Lomond (Young's Travels in France, 1784, vol. i. p. 79) transmitted telegraphic signals to a neighboring room by means of a pith ball electrometer, acted upon by frictional electricity. Reiser (Voight's Magazine, vol. ix. part 1) illuminated by the electric-spark letters formed upon plates of glass with strips of tin foil. Gauss (Gauss and Weber. Resultate des Mag. Vereins, vol. ii. p. 14) makes mention of a communication from Humboldt, according to which Betancourt in 1798 established a communication between Madrid and Aranguez, a distance of twenty-six miles, by means of a wire through which a Leyden jar used to be discharged, which was intended to be used as a telegraphic signal.

All these experiments put it beyond a doubt that frictional electricity may be employed for giving signals at any distances, and that when these signals are properly contrived, they offer a convenient means of telegraphic intercourse." page 446.

The experiment described by Franklin in 1748, and contained in Franklin's works, Sparks's edition, Boston, vol. v. p. 210, of setting fire to spirits by the electric current sent across the Schuylkill on a wire, and allowed to return by the river, deserves also a place in this statement. The proposal of Cavallo to employ different series of electric sparks for telegraphic signals, and to call attention by means of the explosion of the electrical gas pistol, was made in 1795, in his treatise on electricity, vol. iii. p. 295.

M. Amyot in a memoir in the *Comptes Rendus* of the French Academy of the sitting of July, 1838, published at Paris, pages 80, 81, and 82, states that M. Savary attributes the first idea of telegraphic correspondence by electricity to Franklin. He proceeds to speak of Reiser's perfectly matured plan of a telegraph of illuminated letters in 1794; of the telegraph of Dr. Salva, constructed in Spain, in 1798, by which the Infant of Spain, who saw it operate under his own eyes, was specially informed of a piece of news from a very great distance. M. Quetelet, in the *Bulletins de l'Academie Royale des Sciences* of Brussels, in 1838, p. 44, describes the telegraph of Cavallo as above; of Reiser, of Lomond in or before 1787, using as signals the degrees of divergence of an electrometer; of Salva upon a large scale; of Ronalds, published in 1823, whose apparatus for the communication by electricity was the most ingenious and complete.

(Second period of Electric Telegraphs—1800 to 1820—using Galvanic Electricity.)

In the *second period*, Söemmering constructed at Munich an elaborate *galvanic* telegraph operating on the principle of decomposition. He used as many wires as letters, and made them communicate with an equal number of little gold pins or electrodes. The ascension of the gas bubbles—of the decomposed water from any of these, effected by a powerful battery—served as a signal of a letter. This is fully described in the *Denkschriften der Koniglicher Acadamie zu Munchen*, of 1809 and 1810, commencing p. 401. In addition to this mode of alphabetical signalizing, Soemmering provided an apparatus for striking an alarm bell when the indications were to be made. This is figured and described by the Abbé Moigno, in his history of the telegraph. (Traité de Telegraphie Electrique, par L'Abbe Moigno, Paris, 1849, p. 300.)

The gases liberated by the first passage of the current were collected in a little inverted cup within the decomposing trough, attached to a lever above. As the cup became buoyant, it rose, carrying the lever with it, and causing a weight sliding upon the lever to drop upon a little platform so connected with chime machinery that a bell was struck as an alarm. In this case, by the transfer of the weight, a permanent record was obtained of the commencement of a communication. Soemmering speaks (Denkschr. der Academie, pp. 402, 409) of the telegraphs of Reiser and Salva, which had preceded him; and also of the experiments which laid the foundation of the telegraph, by Le Monnier and Watson.

This telegraph is especially interesting, from its use of the same principle for indicating, that is, of electro-decomposition, as the telegraph of Bain. By placing a tube containing acidulated water in the circuit of Bain's line of telegraph between Boston and Providence, and using two platina wires as poles, I found that the same signals which left their trace on the prepared paper used by Bain, liberated a plentiful supply of bubbles from the decomposed water. When the letters were signalized more slowly, or at the estimated rate of about thirty per minute, the separate impulses of decomposition could be distinguished, so that the operator accustomed to the alphabet could, according to his own statement, recognize the letters. The telegraphs of Bain and of Soemmering in the simplest form, were here working, side by side, in the same circuit, and by means of the same current.

In February, 1816, Dr. J. Redman Coxe, of Philadelphia, according to the Journal of the Franklin Institute, proposed, in a communication to Thompson's Annals of Philosophy, vol. vii. p. 162 (the original of which I have also consulted), a galvanic telegraph, using the decomposition of water and of metallic salts (involving, in principle, a permanent change of color) as its mode of signalizing. (Journal of Franklin Institute, vol. xx. page 325, Philadelphia, 1837).

In the same year a telegraph using frictional electricity was constructed in England, by Francis Ronalds, who published a description of the instrument in 1823, according to the authorities given below. In this arrangement there were clocks at the stations, which kept time with each other, and which were furnished with a light disk of cyphers in place of hands, having twenty different signs towards their circumference. At the moment the proper sign on the disk passed before the index at one station, the spark was discharged, and an electrometer, stationed at the other, diverged, and caused the same sign on the disk at the other to be noted. This telegraph is stated to have been erected at Hammersmith, with eight miles of wire, and to have used the explosion of the gas pistol as an alarm. (Encyclopedia Britannica, Edinburgh, 1842, 7th edition, vol. viii. p. 662. Also Steinheil, Annals of El., vol. iii. p. 446.)

(Third period of Electric Telegraphs—after 1820—Using Electro-Magnetism, in addition to other agencies.)

The third period commences with the important discovery of the *electro-magnetic* telegraph by Ampére, in 1820, and its description, in that and the following years. (Annales de Chimie et de Physique, 1820, vol. xv. p. 73. Exposé des Nouvelles Découvertes, par Ampére et Babinet, Paris: 1822. See also, Amyot, Comptes Rendus, 1838, p. 81.) This telegraph used the deflection of the needle for its signals, employing as many circuits as there were letters, and using lever keys, like those of the piano, for completing the circuit of each letter. Passing over other inventions and plans, it is only necessary to refer, in this place, to the telegraph of Harrison Gray Dyar, said to have been constructed by him in 1827 or 1828, on Long Island. This telegraph, using frictional electricity, I believe to have dyed its signals on paper by means of electro-decomposition.

Baron Schilling, of St. Petersburg, (Stut-

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geon's Annals of Electricity, vol. iii. p. 448 1839) is stated to have contrived a deflective magnetic telegraph with only one wire, in the latter part of 1832. This telegraph had an alarm bell connected with it. It seems to have been a step in advance of previous electro-magnetic telegraphs. Steinheil makes the following statement of the next important invention or improvement. (Sturgeon's Annals of Electricity, vol. iii. p. 448; 1839.) "To Gauss and Weber (Gott. gel. Anz., 1834, p. 1273, and Schumacher's Jahrbuch, 1837, p. 38) is due the merit of having in 1833 actually constructed the first simplified galvano-magnetic telegraph. It was Gauss who first employed the excitement of induction, and who demonstrated that the appropriate combination of a limited number of signs is all that is required for the transmission of communications. Weber's discovery, that a copper wire 7,460 feet long, which he had led across the houses and steeples of Gottingen, from the Observatory to the Cabinet of Natural Philosophy, required no special insulation, was one of great importance. The principle was thereby at once established of bringing the galvanic telegraph to the most convenient form. All that was required was an appropriate method of inducing or exciting the current, with the power of changing its direction without having recourse to any special contrivances for that purpose.

"In accordance with the principles we have laid down, all that was required in addition to this, was to render the signals audible; a task that apparently presented no very particular difficulty, inasmuch as in the very scheme itself, a mechanical motion, namely, the deflection of a magnetic bar, was given. All that we had to do, therefore, was to contrive that this motion should be made available for striking bells, or for making indelible dots. This falls within the province of mechanics, and there are, therefore, more ways than one of solving the problem. Hence, the alterations which I have made in the telegraph of Gauss." The paper of Professor Steinheil goes on to describe his registering telegraph. This is also described in the *Comptes Rendus* of the French Academy, of the sitting of September 10, 1838, pages 590 to 593.

It thence appears that this telegraph was in public operation between Munich and Bogenhausen, on or before July 17, 1837. The deflection of the needle was made here to effect two objects; to strike a bell, and to register serial dots or short marks on a fillet of paper moved by clock-work. These dots were combined so as to form an alphabet of letters. He says (Sturgeon's Annals of Electricity, 1839, vol. iii. pp. 449, 450), "If bells are placed at the proper striking distance from" (the magnetic bars), "they will ring at every deflection produced; and, as it is quite immaterial at what part of the circuit wire, completing the circuit, the multiplier containing the indicator is inserted, we have it in our power to produce the sign excited by induction at any part of the course the wire takes. Should it be desired that the indicating bar, instead of producing sounds, should write, it is merely required to adapt to one end of the little magnetic bar a small vessel filled with a black color and terminating in a capillary tube. This tube, instead of striking upon a bell, thus makes a black spot upon some flat surface held in front of it. If these spots are to compose writing, the surface upon which they are printed must keep moving on in front of the indicator with a uniform velocity, and this is easily brought about by means of an endless strip of paper which is rolled off one cylinder on to another by clock-work." It will be observed that this attachment of a pen would have been equally easy in connection with Ampère's Deflective Telegraph of 1820.

In the same year, the deflective electro-magnetic telegraph of Cooke and Wheatstone was patented, having been sealed June 12, 1837. (London Repertory of Patent Inventions, 1839. Vol. xi. new series, p. 1.) *This brings the history of the telegraph to the time of the caveat of S. F. B. Morse, in October*, 1837, or to the *first description of his telegraph believed to have been given to the public, in the same year*; also, (on the authority of a book entitled, "The American Magnetic Telegraph, by Alfred Vail, Philadelphia, 1845," p. 70,) *the time of the first test experiment of the whole plan*, stated by S. F. B. Morse, in a letter to the Hon. Levi Woodbury, Secretary of the Treasury, and believed to be included in a report to Congress made under date of Dec. 6, 1837, to have been devised, but not tested until a few weeks previous to the 27th of September, 1837.

The number of telegraphs *belonging to the different periods*, had been so greatly multiplied at this time, or soon afterwards, that Quetelet states, on the authority of Wheatstone, in the *Bulletin de l'Academie Royale des Sciences, de Bruxelles*, published at Brussels, in 1838, p. 46, that there were already, at that time, names of *sixty-two claimants to the discovery of the electric telegraph.* The reactions of electricity which have been used up to the present time, as the means of telegraphic indication, are principally as follows: The spark; divergence of the electrometer; visible decomposition and buoyancy of the gases from water; decomposition of salts; deflection of a magnetic bar or needle; electro-magnetic attraction and repulsion; lastly, ignition. Several of these have been so used as to produce permanent effects, or to register the signal communicated.

Memoranda further illustrative of Telegraphic Progress during the "Three Periods."

The brief retrospect of Dr. Channing contemplates the history of Telegraphing down to the year 1837, when Professor Morse's first patent was applied for. The statements of Professor M., detailing his progress from the time of his conception in conversation with Dr. Jackson, on board the ship Sally, in 1832, five years previous to the date of his successful experiment and caveat, in 1837, and detailing also his views of the subsequent history of telegraphic operations—will appear in the next number, along with the statement, drawn by legal authority, from Professor Henry.

Meantime, some memoranda may be appropriately added here, showing further particulars respecting the progress of electric discovery during each of the "three periods" alluded to by Dr. Channing; and with this view we quote the array of facts and authorities minutely given by Charles B. Moss, Esq., in a statement submitted to the U. S. Circuit Court, in Kentucky, omitting from that statement every thing of a controversial character. The references given will enable the reader to examine the original authorities for each statement. For the convenience of reference, we have placed captions over various paragraphs in the statement of Col. Moss:

(Le Monnier's Discoveries,—1746.)

On the 12th November, 1746, M. Le Monnier, the younger, read before the Royal Academy of Sciences of Paris, a memoir, detailing a series of experiments which he had then recently made, in order to test objections which he entertained to some of M. Du Faye's doctrines in Electricity. As some of these experiments prove M. Le Monnier to be the first Electrician who discovered—

1st. That the Electric discharge could be transmitted through metallic circuits of great length;

2d. That he was the first who demonstrated that static or machine Electricity could be passed through or over large bodies of water; and

3d. That he was the first who endeavored to ascertain the velocity with which Electricity passes through the circuit—

It is proper to state his experiments here in detail, but without any further reference to the object which had induced him to undertake them.

Experiment No. 1. As to the length of metallic circuit through which the Electrical charge could be passed: M. Le Monnier passed a shock through an iron wire some two thousand toises, or nearly two and a half miles in length—notwithstanding that the wire laid on wet grass, newly ploughed ground, &c., throughout most of its length.

Experiment No. 2. As to the conductibility of water: He laid an iron chain round a portion of the circumference of one of the basins of the Tuilleries having a surface of about an acre. An assistant held one end of the chain in his left hand, whilst his right was immersed in the water. Diametrically opposite the first, there was a second assistant, who held the other end of the chain in his right hand, whilst he grasped a Leyden Phial "well electrified" with his left. When this assistant touched with the wire of the phial "an iron rod, fixed upright in a piece of cork that floated near the edge of the basin, at that instant both observers felt a violent shock in both their arms," proving that the line of water between them had formed part of the circuit, of which the chain was also a part. A similar experiment on two basins of water, connected, in order, as the author quaintly remarks, "that it might appear distinctly that the electric effluvia did really pass along the superficies of the water."

It is shown, too, by these experiments, that electricity follows the best conductors.

Experiment 3d. His experiment to ascertain the velocity of electricity, consisted in taking a shock through an iron wire 950 toises in length, suspended by silken threads, and bent in the middle so that the two legs were nearly or quite parallel; but he could not observe as much difference as a quarter of a second between the time of closing the circuit, by the discharge of a Leyden Phial, and that of his experiencing the shock. From this and a subsequent experiment, M. Le Monnier inferred that the velocity of electricity was too great to be determined with any degree of precision. See Philosophical Transactions, Martyn's Abridgement, vol. x., pages 336, 338.

(Winkler's Experiments,—1746.)

These experiments of Le Monnier were immediately repeated by many other philosophers, amongst whom John Henry Winkler, then Professor of Ancient Languages in the University of Leipsic, is mentioned, by Steinheil, as having, in 1746, discharged several Leyden jars through a circuit formed by a part of the River Pleiss and a wire of considerable length. See Sturgeon's Annals, vol. iii., page 445.

(Watson's Discoveries,—1747.)

The experiments of Dr. William Watson, in reference to the conductibility of water, long metallic circuits, and the velocity of electricity, were made during the months of July and August, of the year 1747.

From the extent of the scale on which they were conducted, and the great sagacity and address displayed in the manipulation, their results were received with the greater confidence, and as rigorously verifying the conclusions of Le Monnier. But they were chiefly remarkable, however, for the important discovery to which they led, viz.: That dry ground could be used as a part of an electrical circuit, which was made at Highbury Barn, August 5. As this station was situated in a bend of New River, it was supposed that the ground portion of the circuit might be moist, and that its conductibility was entirely due to this circumstance. To relieve the subject from all source of doubt, it was determined to repeat the experiment, in a circuit double the length of the former, at Shooter's Hill. "As only one shower of rain had fallen during the preceding five weeks, the ground could not be but very dry, and as no water was near, if the electrical commotion was felt by the observers at the stations, it might be safely concluded that water had no share in conducting it." On the 14th of August, a circuit was formed of two miles of wire, supported on sticks of baked wood, and of the ground circuit comprised within the extreme stations, and, of course, also two miles in extent; and making an entire circuit of four miles. The Leyden jar was repeatedly discharged through the circuit, and the shocks were distinctly, and generally severely, felt by the observers placed within the circuit. These results established the fact, that dry ground could be made a part of an electrical circuit.

(Other Experiments,—1748.)

Many experiments were very carefully and skillfully made at the same time, to deduce the velocity of electricity by noting the time which elapsed from observing the electric shock and the flash of a gun till the report was heard—a very rude method, it must be admitted. The general conclusion of the observers, however, appears to have been, "that, by comparing the respective velocities of electricity and sound, that of electricity, in any distance yet experienced, is nearly instantaneous." It may be added that a similar set of experiments on the velocity of electricity were carried out on the 5th of August, 1748, by some of the gentlemen who had assisted Dr. Watson, when the experimenters "were fully satisfied, that through the whole length of the wire, being 12,276 feet, the velocity of electricity was instantaneous." See Philosophical Transactions, Martyn's Abridgement, vol. x., page 347.

(Franklin's Researches,—1748.)

Our own Franklin, whose researches furnished so much and such valuable material for the structure of Electricity, and whose beautifully simple theory gave it form and style—whose brilliant discoveries were made but to benefit his kind—Franklin seems to have been long and familiarly acquainted with the most of these facts; for, in a letter to his English friend, Peter Colinson, Esq., written at Philadelphia, in 1748, he gives a very interesting detail of the amusing manner in which they were to be applied at an electrical feast to be held on the Schuylkill, as a proper termination, for the season, of the labors of himself and his brother electricians. See Franklin's Works.

It has been well observed by the celebrated Dr. Robert Hare, that "with Franklin's discoveries the science of mechanical electricity reached its meridian splendor." The only exceptions which might be made to this, may be the few developments made by recent researches in relation to the chemical and magnetic action of this agent, and some learned disquisitions on its true theory as to whether there is but one fluid according to his theory, or two fluids according to that of Dufaye, or, finally, whether the phenomena may not be more easily explained by the hypothesis of undulations, as in the case of sound, light, &c.; but with these exceptions, the department of mechanical or frictional electricity has received but comparatively little attention since the time of Franklin.

(Origin of "Galvanism,"—1800.)

This temporary neglect of the science of mechanical electricity may be attributed in a great degree to an accidental discovery, the results of which have not only powerfully aided in the development of chemistry, and given birth to new arts and processes, but have exercised a wonderful influence on social intercourse. Luigi Galvani, Professor of Anatomy at Bologna, had observed that a current from an electric machine, passing through the nerve of a dead frog, would cause muscular contractions. A strong advocate of the doctrine of animal electricity, he was at no loss for an hypothesis either to account for the phenomena, or to conduct future investigations; and, after various experiments, was led to the new fact, that, when the nerve and muscle were connected by a metal, the contractions occurred in the same manner as they had done under the influence of the current. Galvani explained this, by assuming, in accordance with his favorite theory, that the surface of the muscle was in one kind of electrical state, whilst the nerve was in the opposite; that the metal connecting them, playing the part of a discharging rod, produced the electrical equilibrium, the same as in the discharge of a Leyden jar, and the muscular contractions were the consequence. This hypothesis, however plausible it might be, was not received by scientific men generally.

(Volta's Researches,—1800)

Alexander Volta, then Professor of Natural Philosophy in the University of Pavia, who had carefully repeated and extended the experiments of Galvani, declared it to be untenable. He proved that it was necessary to use two different metals to produce contraction; that the contact of heterogeneous metals develop electricity, and it was to the electricity thus produced, and not the electrical state of the nerve and the muscle, that the contractions were due. In support of his views, he undertook a series of experiments on the electricity excited by the simple contact of different metals, which finally led him to the discovery of the apparatus known as Volta's Pile. It may not be out of place to give a general idea of the principle and action of the pile; as it was the germ of the battery, now used as the electromotor on all Telegraphic lines. As the simple contact of a single pair of metallic plates, one of silver, and one of zinc, will develope a certain quantity of electricity, it is plain that the effect will increase, in some manner, with the increase of the number of metallic pairs. This is the principle. Now, if we pile up a number of zinc and silver disks, taking care that the zinc and silver regularly alternate in the series, and if we place between each pair a wet cloth, we form an apparatus embodying and multiplying the principle: if the extreme disks of each pile, composed of a sufficient number of pairs, be touched by moistened hands, a shock will be received; and when wires attached to them are made to touch and separate, sparks will be seen. Such is the apparatus of which Volta communicated a description to the Royal Society, in a letter dated Como, 20th March, 1800. See *Philosophical Transactions* for the year 1800, page 403.

(Nicholson and Carlisle's Discoveries,—1800.

It is apparent from this communication, that Volta had no knowledge of the chemical power of his own pile. The discovery is due to Messrs. Nicholson and Carlisle, by whom it was made on the 2d May, 1800, whilst engaged in repeating Volta's experiments. It happened that the polar wires came in contact with a drop of water, which was immediately thrown into a state of effervescence, accompanied by the peculiar odor of hydrogen gas. The facts suggested the chemical power of the pile, and an experiment was at once instituted to test the correctness of the suggestion. A glass tube containing water was corked at each end, and two brass wires were introduced, one through each cork, into the tube, the ends approximating but not touching each other. The free end of each wire was then connected with a terminal plate or pole of the pile, and the decomposition of the water immediately commenced, as in the case of the drop of water. But another effect was now noticed; that the bubbles appeared at the end of that wire connected with the silver end of the plate, whilst the end of the wire connected with the zinc plate became at first discolored and ultimately blackened. It was a question, now, whether this discolorization of the wire did not arise from a combination of the disengaged oxygen with the brass; and if it did, it was manifest that the other gas disengaged and collected must be hydrogen, and would therefore explode when mixed with a proper volume of atmospheric air. To determine the point, the gas collected was mixed with an equal bulk of atmospheric air; when, on applying flame to the compound, it exploded. It was thus demonstrated that water had been decomposed into its constituent elements, oxygen and hydrogen, and that the discoloring of the wire and the non-appearance of the oxygen, was a consequence of the combination of the latter with the metal of the wire. This experiment showed also, that water is a conductor of voltaic, as it had been proved it is of frictional, electricity. See *London Encyclopedia*, 1845. Vol. 8, page 97.

(The Cruikshank Battery.)

Valuable as the pile proved to be to the experimenter, yet its use and management were attended with much inconvenience and trouble. In proportion as the number of pairs in the pile was increased, the greater was the pressure on the wet cloth interposed between the lower pairs of disks. The consequence was, that the solution used to moisten them, and discharging an important function in the operation of the pile, exuded, and the duration of the action of the pile considerably lessened. Besides this, the zinc plates would become, by the action of the solution, covered with oxide, which it was necessary to remove; and to re-saturate the cloths and clean the pile, required that the latter should be taken to pieces. This led to the invention of the Trough Battery by Cruikshank, shortly after the introduction of the pile into England.

(Sir Humphrey Davy's Apparatus.)

The invention of the Cruikshank Battery was followed by other modifications of the pile, of which the trough constituted an important element.

It was with these newly contrived apparatus that Sir Humphrey Davy, shortly after the discovery of Nicholson and Carlisle, commenced that brilliant career of electro-chemical research, so productive of those wonderful results which revolutionized the whole science of chemical philosophy. Commencing his investigations with the decomposition of water, he not only verified, by the most delicate methods, the experiments of the gentlemen just named; but he demonstrated the analytic powers of the voltaic current by its decomposition of the solution of the salts and alkalis, etc. See Works of Sir Humphrey Davy, edited by Jno. Davy, M. D. &c., London, 1839.

(Observations on the Foregoing Discoveries.)

From the time of the invention of the pile, it was generally conceded that the agent it developed was electricity, but in a modified form; and the rationale of its evolution, maintained by the scientific, was the same as that originally given by Volta, viz: The contact of heterogeneous metals. Yet, considering that the efficient action of the pile depended as much upon the presence of cloths, or other fabric, moistened by some kind of fluid, as it did upon that of the metals, and that the absence of such fluid rendered it inoperative—it was suspected, at least, that this action was as much the result of the chemical reaction between the fluid and the zinc, as it was of simple contact. Experiments on the trough battery not only strengthened this suspicion, but finally led to the more general assumption that it was to such chemical reaction between the fluid and the oxydable metal, that the action of the battery or pile was mainly due—mere metallic contact being necessary only to closing the circuit in order to permit this reaction to proceed unrestrained. Although the battery was certainly a great improvement on the pile, yet its inherent defects caused great embarassment to philosophers. It was observed simultaneously with its introduction, that, the same as in the pile, the force of the current was greatest in a very few moments after the immersion of or throwing the exciting fluid(which replaces the saturated cloths of the pile) upon the plates; and from that moment it rapidly decreased till it became evanescent. Besides this, the zinc plates required frequent cleaning, and the saline or acid solution required as frequently to be renewed or strengthened. In the investigation instituted to ascertain the general laws which govern the action of the voltaic current, it is evident that no confidence could be accorded to the results obtained where such electromotors had been employed. These defects, too, would present *insuperable obstacles* to the *practicable application* of any volta-electro-magnetic arrangement requiring to be of great duration and of constant force—such, for instance, as electro-magnetic engines, or Electrotype apparatus; or *electro-magnetic Telegraphs* required to be continually in operation. In view of *such* applications, attention was now directed chiefly to the diminution of these objectionable features, and chemistry made ample compensation for the brilliant services rendered her by electricity, by furnishing laws to guide the analysis of the battery preparatory to its improvement. The problem to be solved was to construct an electromotor, such, that its current should be constant in force, and of considerable duration.

(Professor Hare's Improvements.)

Although such were the special objects which had enlisted the attention and efforts of electricians, it would be improper not to mention that Professor Robert Hare, of the University of Pennsylvania, had distinguished himself, and had rendered good service to the science, by his valuable improvement, at an early day, on other points of the battery. His efforts, however, appear to have been confined mainly to the experimental test of his original and beautiful theory, that the quantity of two of the constituents of the voltaic current, heat and electricity, were evolved in this proportion, viz: The caloric being: to the electricity: as the extent of generating surface: to the number of the series. His calorimotor and deflagrator were the triumphant evidences of his theoretical views. See Hare's Lectures and Essays.

(Batteries of Becquerel, La Rue, &c.)

The first to obtain a certain degree of *constancy* in the action of the battery, by a new modification of its elements (without which Electric Telegraphs would be comparatively valueless), were Professor Richie and M. Becquerel, pere. The latter, in 1829 constructed a battery which, with proper attention, would maintain the current of nearly constant force for about an hour and a half. See London and Edinburgh Philosophical Magazine, 1842, vol. 20, page 296, et seq.

The next important step in the march of improvement was made by Mr. Warren de la Rue, of which the Encyclopedia Britannica, 1842, vol. xxi. pages 668–69, says that its value was the consequence of his "using a solution of sulphate of copper, as the exciting agent in Voltaic Batteries. Oxygen is thus supplied to the zinc by the oxyde of copper. No gas is evolved, and the action being thus rendered continuous, the effect is fully equal to that momentarily produced by immersion in acids."

(Daniell's Constant Battery.)

This was followed in the year 1836 by the improvement of Prof. Daniell, of which the same work speaks as follows: "Notwithstanding the numerous improvements which have been made in the Voltaic Battery, no successful attempts had been made till the time of Prof. Daniell, to discover the causes of the variations and decline of its force after the first immersion of the plates in the diluted acid. The principal cause of these variations he proved to be the evolution of hydrogen gas from the negative surface, which not only consumes a considerable portion of the generated electricity, but reduces at the conducting plates the oxide of zinc formed by the action of the battery at generating plates; and here the conducting plates were ultimately so encrusted with metallic zinc as to diminish and finally annihilate the circulating force. Hence he was led to the construction of what he calls a Constant Battery, for producing an invariable current of force, and therefore applicable to many important researches which cannot be successfully carried on under variation of the voltaic current. But, besides the attainment of this great object, Prof. Daniell considers it as promising the following advantages:

"1st. The abolition of all the local action, by the facility of applying amalgamated zinc.

"2d. The trifling expense of replacing the zinc rods when worn out, and the total absence of any wear of the copper.

"3d. The dispensing with the use of nitric acid, and the substitution of the cheaper materials, sulphate of copper and oil of vitriol, and the absence of any annoying fumes: and

"4th. The facility and perfection with which all metallic communications may be made, and different combinations of the plates arranged." See Encyclopedia Britannica, 1842. vol. xxi. p. 669.

(Grove's, Silliman's, and other Batteries.)

Subsequent to the discovery and invention of Prof. Daniell, numerous forms of constant Batteries have been proposed, such as Smee's, Grove's, Silliman's, Bunson's; but the most valuable among them, at least for Telegraphic purposes, is that of Grove, and the only one now used on all Telegraphic lines. It was proposed in a memoir read before the French Academy on the 15th of April, 1839, and immediately adopted wherever constancy and energy in the voltaic current are required. The most valuable characteristics of the Grove Battery, which make it unequaled as a hydro-electromotor for Telegraphic communications, are:

1st. The uniform character of its current,

2d. The great energy of the current produced by a few pairs,

3d. The comparatively diminutive size of the active surface of a single pair, and—

4th. The great duration of its action. See London and Edinburgh Magazine, vol. xv. page 287. (As evidence of this, it may be stated, and on the information and experience of several gentlemen who are at present in town, that the Grove Battery will, with proper attention in preparation, act uniformly for three weeks, without requiring renewal of the amalgamation, and only such occasional supply of nitric acid, &c., as will replace the loss produced by evaporation, and the slight dilution of the nitric caused by the absorption of hydrogen of the decomposed water. In one instance, it is known to have acted well for forty-five consecutive days.)

(Ampére's proposed Telegraph,—1820.)

The first *Electro-Magnetic* Telegraph, was proposed by the celebrated Ampére, in a report which he made to the Academy of Sciences in 1820; and is chiefly remarkable for being the Telegraph for which a finger-key or stop was first devised. The Edinburgh Philosophical Journal, vol. iv. thus speaks of it:—"*Ampére's Electro-Magnetic Telegraph.*—In the curious Memoir of M. Ampére, of which we have already given an account, he proposes to construct a Telegraph by using as many conducting wires and magnetic needles as there are letters. By placing each letter on a different needle, he establishes, by means of the pile placed far from the needles, an alternate communication between its two extremities and those of each conductor; and this forms a sort of telegraph, fitted for writing all the details which one may wish to transmit through any obstacle, to a person who is charged with observing the letters placed on the needles. By placing on the pile a row of stops, which would carry the same letters, and establish communication by their descent, this method of correspondence might be made both rapid and easy."

(Barlow's Researches,—1825.)

This may be the proper place to notice an important fact, which at first threw some doubt on the *practicability* of Electro-Telegraphic communication; but which was most happily removed, so far as relates to Telegraphs using temporary magnetism, by the original mode of investigation, with the consequent invention of Prof. JOSEPH HENRY, then of the Albany Academy, subsequently Professor of Chemistry, &c., at Princeton, and now Corresponding Secretary of the Smithsonian Institute, Washington, D. C. The conducting power of wires is now alluded to. In a paper entitled "On the Laws of Electro-magnetic Action, as depending on the length and dimensions of the Conducting Wire, &c., &c., by PETER BARLOW, F. R. S.," published in the Edinburgh Philosophical Journal, &c., vol. xii. p. 195, January, 1825, the law of the conducting power of wire is for the first time introduced as one of the important elements of an electro-magnetic Telegraph.

From this paper the following extract is made: "In a very early stage of Electro-magnetic experiments, it had been suggested that an instantaneous Telegraph might be established by means of conducting wires and compasses. The details of this contrivance are so obvious, and the principles on which it is founded so well understood, that there was *only one ques-*

tion which could render the result *doubtful;* and this was, is there any diminution of effect by lengthening the conducting wire? It had been said that the electric fluid, from a common electrical battery, had been transmitted through a wire four miles in length, without any sensible diminution of effect, and to every appearance instantaneously; and if this should be found to be the case with the galvanic circuit, then no question could be entertained of the practicability and the utility of the suggestion adverted to. I was therefore induced to make the trial, but I found such a sensible diminution with only two hundred feet of wire as at once to convince me of the impracticability of the scheme. It led me, however, to an inquiry as to the cause of this diminution, and the laws by which it is governed."

(Davy's Previous Discoveries.)

The discovery of Prof. Barlow might have been deduced, to a great extent, theoretically, had reference been had to a previous discovery of Sir Humphrey Davy, in relation to the difference in manner in which each of the two forms of electricity, the *common* and *voltaic*, is conducted by metal. It had been long known that common electricity was conducted over the *surface* of the metal, while Davy "found, as might have been expected, that the conducting power of wire for electricity, in batteries of the size and number of plates first described, was nearly as the mass; thus, when a certain length of wire of platinum discharged one battery, the same length of wire of six times the weight discharged six batteries; and the effect was exactly the same, provided the wires were kept cool, whether the mass was a single wire, or composed of six of the smaller wires, in contact with each other. This result alone showed that the surface had no relation to the conducting power, at least for electricity of *this* kind, and it was more distinctly proved by direct experiment: equal lengths and equal weights of wire of platinum, one round, and one flattened by being passed tranversely through rollers to six or seven times the surface, were compared as to conducting power; the flattened wire was the best conducting power in air, from its greater cooling powers; but in water no difference could be perceived between them." See Philosophical Trans. 1820-21.

(Professor Richie's Views,—1832.)

As to the peculiar mode in which each kind of electricity (so to speak) is conducted, and which has formed the distinctive of each, experience of the widest extent has confirmed Davy's doctrine. Dr. Richie, in the Philos. Trans. for 1832, page 279, remarks: "Common electricity is diffused over the surface of the metal; voltaic electricity exists in the metal. Free electricity is conducted over the surface of the thinnest gold leaf as effectually as over a mass of metal having the same surface. Voltaic electricity requires thickness of metal for its conduction."

(Lenz's Law Established,—1837.)

The law deduced by Barlow was, that the conductibility of wires of the same metal is inversely as the squares of the lengths, and directly as their diameters; but, in view of experiments conducted with some care about the same time, the law was not generally received. In a paper read to the Academy of St. Petersburg, Nov., 1834, detailing his recent and most elaborate experiments in order to determine this law, Prof. Lenz remarks: "The first more accurate experiments on this subject were made at a late period by means of the electromotor, and the voltaic pile;" and the experiments of Davy, Pouillet, Becquerel, Christie, Ohm and Fechner, prove the law, that wires of the same metal, conduct electricity inversely as their lengths, and directly as their sections."

It is the law last announced, known sometimes as Lenz's Law, that is generally received, and no experience, so far as known, has yet conflicted with it. See Taylor's Scientific Memoirs, 1837, vol. i., page 311.

(Obstacles to an Electro-magnetic Telegraph.)

Enough has been now adduced to prove not only the vastness of the obstacle presented to those who first proposed carrying out the *projêt* of an Electro-magnetic Telegraph, but, also, the fallacy of that part of Professor Morse's patent of June, 1840, which asserts, that the circuit of conductors may be made of cord or twine, or other substances, gilt, silvered, or covered with any thin metal leaf. In re-issues of the patent, this has been omitted.

(Aldini's Experiments.)

Another important fact in relation to the conduction of voltaic electricity, was determined by Jean Aldini, in the year 1803. It is, that water is a conductor of Galvanism as well as of common electricity, and that the voltaic current may, with proper precautions, be projected across rivers and even arms of the sea. The experiments on rivers were conducted on the Seine and Marne on the 21st of May, 1803, and those on the sea at Calais on the 27th of the preceding February. In all Aldini's experiments, he used the Volta Pile, consisting of 80 disks of silver and zinc. See *Essai, Theorique et Experimental sur le Galvanisme, par le Prof. Jean Aldini. Paris, An.* 12, 1804. *Seconde Partie.*

(Aldini, Wheatstone, &c., respecting the velocity of Electricity.)

The experiments of Le Monnier and Watson, to ascertain the velocity of *common* electricity, have already been noticed. It may now be stated that Professor Wheatstone in 1834, with a very superior apparatus, made a series of experiments with the same object. The important result was, that the velocity of electricity through a copper wire exceeds that of light through the planetary space. See Philos. Trans. for 1834, p. 583.

M. Aldini was the first to experiment on the velocity of *voltaic*, as Le Monnier, Watson, and Wheatstone, had done on that of the *common* electricity. After several experiments, he concluded that the time of the passage of the fluid was not in any wise measurable by a clock which beat half seconds. See Aldini's *Essai, &c.*

(Professor Henry's Discoveries.)

The first philosopher who demonstrated that *voltaic* electricity could be conducted by the earth, and to use a ground circuit for *this* kind of electricity, was Dr. Joseph Henry. He made the experiment in illustration of his lectures on the Electro-Magnetic Telegraph, shortly after becoming Professor at Princeton College. The affiant received this information from a gentleman who could not be mistaken as to the fact, and whose truthfulness none may doubt.

(Steinheil's Telegraph, with Ground Circuit,—1837.)

Dr. Steinheil was the first to pass through a portion of the earth *Magneto-Electricity*, or that which permanent magnets induced in coils of wire surrounding the soft iron which moved in front of them; he was the first to use a ground circuit on the line of his recording Telegraph (marking its dots on ribbon paper) built and operated in 1837; the electricity used for this line being magneto-electricity, as just mentioned.

From an article of Dr. Steinheil upon Telegraphic communication, especially "by means of Galvanism," it appears that the line of Telegraphs for the use of Steinheil's instrument, built in 1837, (between Munich and Bogenhausen) was nearly eight miles in length, and exposed to all weather and atmospheric changes, and supported by steeples and high buildings part of the route, and on posts with cross-bars where there were no high buildings. Dr. Steinheil speaks of many trials having been made up to 1838, to insulate and lay wires under ground, without success; and, therefore, as far back as that date, 1838, he recommended the "leading of the wire through the air," supported "on posts, as the best plan of laying a circuit of conductors."

[Subsequent experience shows that, in several countries, especially in Prussia and England, the Telegraph lines can be successfully insulated when laid under earth or water.]

(Oersted's Discovery of Electro-Magnetism,—1819.)

The effects of lightning on steel implements and the mariner's compass—inducing magnetic qualities in the former and changing or destroying the poles of the latter—had long been known, and had led to a vague notion that there was some analogy between electricity and magnetism.

To approximate a judgment on the point, the Electoral Academy of Bavaria, in the year 1774, proposed the following as a prize question,—"Is there a real and physical analogy between electric and magnetic forces, &c." See Roget's Electricity, 1832—Part Electro-Magnetism, p. 1—which in fact offered a new field for research. From this time much industry and ingenuity were expended on the question; but nothing approaching a satisfactory solution appeared, till John Christian Oersted, Professor of Philosophy in the University of Copenhagen, announced *his great discovery of Electro-Magnetism*, in a Latin communication, dated Copenhagen, July 21, 1820, addressed to Dr. Thomas Thompson, editor of the Annals of Philosophy. The communication was translated and published in the "Annals," from which it appears that the discovery was made in the year 1819, and experimentally illustrated by Oersted before his class at the University, in his Lectures on Electricity, Galvanism, and Magnetism, during the winter of 1819–20. See Thompson's Annals of Philosophy, Vol. xvi. p. 273.

(Effects of Oersted's Discovery.)

The announcement of this discovery created the most intense excitement among the learned of both hemispheres. The letter was immediately translated and re-published in all the languages of Europe. Oersted's experiments were eagerly repeated, varied and extended, and gave birth to a series of discoveries as wonderful and interesting as they were novel. No science, perhaps, can boast of that rapid development which Electro-Magnetism exhibited at the very dawning of its existence. In the catalogue of names distinguished for early and successful research in the new science, may be mentioned more particularly the names of Ampère, Arago, Biot, Davy, Henry, Schweiger and Sturgeon; and as it may tend to throw some light on the details of the subject now under consideration, it may not be improper to present, after a proper reference to Oersted, *a summary of such discoveries as are more immediately connected with the rise and progress of the Electro-Magnetic Telegraph.* Suppose a magnetic needle, such as that of the surveying compass, properly poised on its pivot, to be at rest in the magnetic meridian, and that a wire be arranged OVER and parallel to this needle and in the same vertical plane. If, now, the ends of the wire be made to communicate respectively with the poles of a voltaic battery, the needle will be deflected. If the current be made to pass along the wire from north to south, the north end of the needle will point towards the east. If the current be made to pass from south to north, the same end of the needle will point to the west. Again if, the wire be placed UNDER the needle, the deflections will, other things the same, be the reverse of what they were when the wire was over the needle. Suppose the wire to be placed vertically in the magnetic meridian and near either pole of the needle, then, if the current be made to descend, the pole will move to the west. If the current be reversed, the pole will point to the east. These are the principal features of Oersted's discovery. See Thompson's Annals of Philosophy, vol. xvi. page 273, et seq.

(Arago and Davy's Experiments,—1820.)

These effects of the wire on the needle suggested the idea that the wire, whilst the current was passing through it, was itself magnetic. Arago and Davy proved this to be the fact, nearly about the same time and by the same test, viz: by iron filings brought near the wire, by which they were immediately attracted, and to which they adhered until the circuit was broken, when they immediately fell off. Arago's experiment was made about the 25th Sept. 1820—that of Davy on the 12th November, 1820. See Phil. Trans. for 1820, p. 7; and Encyclopedia Britannica, vol. xxi. page 686.

(Oersted's Description of Schweiger's Multiplier.)

The deflecting power of the *uniting wire*, supposing the length to remain constant, was governed entirely by the quantity of the current passing through it; and when this was small, the deflection of the needle was of course diminished. An instrument, however, was proposed, by which the effect of a current of very small quantity could be made as powerful as that of a more considerable one passing the single wire. As it forms the basis of the *first* Recording Telegraph, Oersted's description of it is given at length,—suggesting, that a recurrence to what has just been said of his own discovery will clear up any apparent obscurity:

"On the Electro-Magnetic Multiplier of Schweiger, &c., by M. Oersted:

"Immediately after the discovery of Electro-Magnetism, M. Schweiger, Professor at Halle, invented an apparatus well adapted for displaying, by means of the magnetic needle, the feeblest electric currents. The effect of this multiplier [is based] on the equal action exercised on the needle by all parts of the conducting wire, when it transmits a current. When a portion of this wire is bent, like *a*, *b*, *c*, (Fig. 1), if the two branches *a*, *b*, and *b*, *c*, are in a vertical plane, and if a needle *d*, *e*, is suitably suspended in the same plane, we may easily conceive that the needle must receive an impulsion double of what one of those branches would have communicated. In fact, the impulsions given to the needle by the two horizontal portions of the wire are added together. To be satisfied of this, we have merely to observe that in the actual arrangement these portions are PERCURNED by the electrical current, in two different directions. The upper wire and the under wire cause the declination of the needle to the two opposite sides, only in the cases when electricity moves in it, in the same direction. We shall, therefore, increase the effects by giving the conducting wires several convolutions round about the needle, as shown in Fig. 2. It is this which constitutes the electro-magnetic multiplier." See Quarterly Journal of Science, &c., vol. xvi. pp. 123, 4.

Fig. 1.

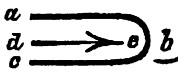
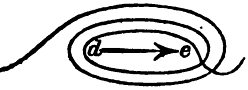


Fig. 2.



(Arago and Davy,—again.)

Although the attraction of iron-filings by the wire connected with the poles of the battery in the experiments of Arago and Davy, proving its magnetic state, would naturally lead to the inference that this wire would communicate magnetism to iron and steel wire or needles, yet there was nothing in the experiments on which the distribution of polarity could be predicted, particularly if different directions be given to the needle, in relation to that of the wire. Davy seems to have considered this, and to have instituted experiments to ascertain the law. But it is only necessary to notice that one which may be considered as the embryo of the electro-magnet. "I attached small longitudinal portions of wires of platinum, silver, tin, IRON and steel in transverse directions to a wire of platinum that was placed in the circuit of the same battery. The steel and iron wire immediately acquired poles in the same manner as in the last experiment. The other wires seemed to have no effect except in aiding merely as parts of the electrical circuit; the steel retained its magnetism as powerfully after the circuit was broken; the iron wire immediately lost part of its polarity, and in a very short time the whole of it." See Davy's Letters to Dr. Wollaston, *Phil. Trans.* for 1820–21.

The magnetic experiments of Arago seem to have been confined to *steel* needles and the induction of permanent magnetism; and in which he was materially assisted by the suggestion of Ampére of converting the uniting wire of the battery into a helix—a contrivance for multiplying the inducing power of this wire, in imitation of Schweiger's instrument just described.

(Biot's Report on the use of the helix in the induction of magnetism.)

The following extract from Biot's report to the Academy, a beautiful instance of physical reasoning, gives a very interesting account of the first use of the helix in the induction of magnetism. Speaking of the labors of the commission appointed by the Academy to examine into and report on the discovery of Oersted, he states that, "In the different arrangements which we have just described, the conjunctive wire (i. e., the wire uniting the poles of the battery) and the magnets attract or repel principally by their most contiguous parts; for, with regard to the rest, their distance rapidly diminishes their action. Hence it is evident that we should augment the energy of the effects if we approximated together the different parts of the conjunctive wire, preserving to them, however, the same general line of action. M. Ampère has also verified this position by coiling the conjunctive wire in the form of a flattened spiral, on the planes of whose contours he acts with magnets as on the side of a single wire. Among the arrangements which he has thus formed, one of the most remarkable consists in winding the conjunctive wire around a cylinder of wood or glass forming an elongated spiral. Then, the force emanating from each point of the wire being always directed transversely to its length, becomes in each element of the spiral perpendicular to the plane of the coils, and consequently parallel to the length of the spiral itself. Farther, on account of the convolutive character of the force, all the inner points of the different rings exercise, in the interior of the spiral, forces which are equal and operate in the same direction; whilst in action exteriorly, the forces emanating from the different points of each ring, oppose and weaken each other greatly by their obliquity. Thus, the result of all these actions ought to be much more energetic within the spiral than outside of it—a consequence which actually happens.

"If we place in the interior of the spiral, unmagnetic steel needles, they will acquire in a few instants a permanent and very perceptible longitudinal magnetism; whereas, if we place them without the spiral, they suffer no change. This experiment is due to M. Arago." See Quarterly Journal of Science, &c., Vol. xi., page 288.

(Sturgeon's Exhibition of Magnetic Power,—1825.)

It was reserved for Sturgeon, afterwards editor of the Annals of Electricity, to be the first to exhibit the great magnetic power which could be developed in soft iron by the inductive influence of the current; and to him the honor is due of having produced, early in 1825, after numerous experiments, the first electro-magnets both of the straight-bar and horse-shoe forms. They were formed of soft iron rods, about a half inch in diameter, and surrounded by a SINGLE copper wire, wound spirally, once, from pole to pole. In relation to their lifting power, Sturgeon states, that "An electro-magnet of the above description, weighing three ounces, furnished with one coil of wire, supported fourteen pounds." See Annals of Electricity, Vol. x., pp. 222–3.

(Moll's Improvement on Sturgeon,—1828.)

Dr. G. Moll, Professor of Natural Philosophy in the University of Utrecht, saw, when in England, in 1828, one of Sturgeon's Electro-magnets. After an exhibition of its powers, concluding that the degree of magnetism depended mainly on the quantity of the current, he supposed that it might be increased by an increase of battery. In accordance with this view, he constructed various apparatus, till he obtained a lifting power of one hundred and fifty-four pounds, which, when compared with the power of the Sturgeon magnet, must be admitted to not only have evinced a great advance in the mode of developing magnetism, but to give a coloring of plausibility to the hypothesis of Moll as to his method of developing the maximum of magnetism from the same mass of iron. In the apparatus by which he obtained such a lifting power, it is proper to state, in view of what is to follow, that the iron of his magnet was a bar of two and a quarter inches in diameter; and, when bent into the U form, was twelve and a half inches high. The battery employed to induce magnetism in this mass of iron, by means of the coil then in use, was the common copper-zinc battery excited in the usual manner, having an active surface of eleven square feet. See Silliman's Journal, Vol. xix., page 329.

(Prof. Henry's Extraordinary Development of Magnetic Power.)

Professor Joseph Henry, of the Albany Academy in the State of New York, was engaged about this time (viz. 1828), in pursuits of the same kind. He produced a magnet, however, of immensely superior power, which sustained, under one modification of its peculiar arrangements, the weight of seven hundred and fifty pounds, whilst under another, the least weight supported was one hundred and forty-five pounds. This will appear more extraordinary after what has been said, when the dimensions of the iron and the active surface of the battery are considered in relation to those belonging to Moll's apparatus. Henry's horse-shoe was made of a bar of soft iron two inches square, hammered on the edges, twenty inches long, and when bent into form, was only nine and a half inches high. The battery employed in the experiment, when the greatest weight was sustained, had just one square foot of zinc surface, and in the case when the weight supported was only one hundred forty-five pounds, the active surface of the pair was only four-fifths of a square foot.

(Henry's American] Magnets, superior to the Dutch and English.)

With such a difference between the electromotors of the two experimenters, to say nothing of the difference in the masses of their magnets, it may be asked, what cause is there for the superiority of the American magnet over the Dutch, which was so far superior to the English? The answer is easy. It may be found in the more philosophical views of the American, which are best expressed in his own words. Speaking of Moll, an account of whose experiments had reached him after he had concluded his own on principles which had been known to him some two years before, Henry says, in relation to the two sets of experiments: "His (Moll's) object, however, was different, being only to induce strong magnetism on soft iron, with a powerful Galvanic Battery. The principal object in these (Henry's experiments) was to produce the greatest magnetic effect with the smallest quantity of Galvanism." And how did he effect it? Simply by the scientific manner of constructing his coils. The coil of Sturgeon's magnet was a short wire, which was loosely coiled around the iron in a comparatively few turns—commencing at one pole and terminating at the other. The coil of Sturgeon was used by Moll; and in fact, till Henry's mode was made public, no other form of coil than that of Sturgeon was known or used. Henry, to make his coils capable of inducing in the iron they covered powerful magnetism from a feeble current, adopted, but using modes of application peculiarly his own, the same principle that Schweiger had done in his multiplier, to deflect a magnetic needle by a feeble current, as already explained. He, besides, insulated his wire from the iron and itself by covering it with silk. Prof. Henry had two forms of this multiplying coil, according to the battery to be used. On this subject, he says: From these experiments, it is evident that in forming the coil, we may either use one very long wire or several shorter ones, as the circumstances may require. In the first place, our galvanic arrangement must consist of a number of plates so as to give projectile force (i. e. an intensity battery.) In the second, it must be formed of a single pair," (i. e. a quantity arrangement.) See Silliman's Journal, vol. 19, page 404, 1831.

(Practicability of Electro-Magnetic Telegraphs.)

In the case of the Electro-magnetic Telegraph, where the intensity arrangement is used on the line, the first form of coil must be used; and this form is to be seen in what is called the "Receiving Magnet," used in Morse's Telegraph. The same form of coil is used in the Register Magnet of the same Telegraph; and *it is to Professor Henry's method of making the electro-magnetic coil* that the *practicability* of the Morse Telegraph is mainly due.

The result of an experiment with a magnet covered with a coil of the first kind, and using an intensity battery, suggested the fact which is announced in the same paper, viz: "The fact that the magnetic action of a current from a trough, is at least not sensibly diminished by passing through a long wire, is directly applicable to Barlow's project of forming an Electro-magnetic Telegraph, and of forming a galvanic coil."

(British Testimony to Henry's Success.)

That Professor Henry's mode of making electro-magnets is properly valued abroad, is made sufficiently evident by the following deserved notice from the pen of Mr. Sturgeon himself, who, after alluding to his own discovery of the Electro-magnet, thus alludes to the Professor: "The subsequent improved plan of Professor Henry, of raising the magnetic action of soft iron, *developed new and inexhaustible sources of force*, which appeared *easily and extensively available*, as a *mechanical agent;* and it is *to the ingenious American Philosopher above named*, that we are indebted for the first form of a working model of an engine upon the principle of a reciprocating polarity of soft iron by electro-dynamical agency." Sturgeon's Annals, vol. iii. page 429.

(Faraday on Magneto-Electricity,—1831.)

If the poles of a permanent magnet of the U form be made to approach those of a temporary magnet of the same form, having properly constructed coils, a brief current of electricity may be observed in the wire: the same effect will take place when the poles of the permanent magnet are withdrawn, but the direction of the current induced by the approach of the magnet is the reverse of that induced by the withdrawal of it. The electricity thus excited, is termed Magneto-Electricity; and was discovered by Dr. Faraday, in 1831. See Faraday's Researches, &c., vol. i. p. 27.

It is easy to conceive certain mechanical arrangements by which the poles of the magnets may be made to advance towards and recede from each other: a rotary motion has been usually adopted, and the temporary magnets are made to rotate before the permanent magnet, and with any speed. A contrivance has also been added, by which each kind of induced current is always made to take the same direction. Under a rapid motion of the machine, the waves of induced electricity are made to succeed each other so rapidly as to approach in character to a current. This machine is termed the Magneto-electro Machine; and, as its coils can be made for currents of quantity or intensity, it may be made to supply the place of a quantity or intensity battery.

When, in the opening of these statements, the date of the first suggestion of *each* of the *three kinds of Telegraph* was given, nothing more was intended than to keep in view from the outset that the idea of the Electro-Telegraph is not of to-day's growth, but that it dates back nearly to the time when the first notion was formed of the velocity of electricity; that it has been revived from time to time as the progress of science seemed to warrant an expectation of its realization, until at last we find it practically developed in many systems. The details which follow serve merely to *show the steps of the progress so far as it is connected with that idea*, and to *indicate the benefactors whose research and discovery and invention, have furnished the materials*, which, to a greater or less extent, are employed in every Electro-Telegraph at present in operation.

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Another Telegraph Invention.

Mr. J. W. Kelley, manager of the Lake telegraph in Pittsburgh, and formerly connected with the O'Rielly line, in this city, has invented a continuous self-repeating magnet, for telegraphic purposes, by which messages can be transmitted direct from Halifax to New Orleans and answered, without a change of the way switches. This will obviate the necessity of a re-transmission by way offices. The machine, says the Pittsburgh Journal, can be introduced without much expense, and the old ones can be readily altered. This will add greatly to the facility of telegraphing, and save much trouble to operators. Mr. Kelley is about taking out a patent for his invention.—*Buff. Eve. Post.*

Remarks by American Telegraph Magazine.

☞ The above-mentioned invention, if as represented by the Buffalo and Pittsburgh papers, is a very valuable one.—Wherein it differs from Bulkley's instrument for the same purpose, of course we cannot judge from the foregoing notice. Mr. Kelley is a skillful and ingenious telegrapher; and we are not disposed to question in advance his ability to produce an instrument different from and as good as Bulkley's; and when he succeeds in demonstrating the fact, we trust he may find that the different Telegraph lines will appreciate and remunerate his skill and efforts.

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The Astor Library, New York, will probably open with a collection of upwards of 30,000; and the Free City-Library of Boston, by the recent donation of $50,000 by Mr. Bates, of London, will be established before long.

Telegraphic Connection of the Atlantic and Pacific.

Having in the October number of the Telegraph Magazine published the outlines of O'Rielly's "plan for establishing a Telegraphic and Mail Route (across our own territories), between the Atlantic and Pacific Oceans," and believing that no subject of greater importance in the way of "Internal Improvement," is now before the American people, we deem it proper to insert the Bill submitted by Mr. Douglas in the Senate of the United States, for the purpose of sustaining the views and accomplishing the objects proposed by Mr. O'R.—adding thereto a brief sketch of the debate which ensue dthereon.

In Senate of the United States, April 22, 1852.

Mr. Douglas, from the Committee on Territories, reported the following bill; which was read, and passed to a second reading.

A Bill for the protection of the *emigrant route, and a telegraphic line*, and for an *overland mail*, between the Missouri river and the settlements in California and Oregon:—

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States be, and he is hereby, authorized to raise, organize, and equip, in conformity with the first, second, and third sections of the "Act to provide for raising a regiment of mounted riflemen, and for establishing military stations on the route to Oregon," approved May nineteenth, eighteen hundred and forty-six, three regiments of volunteers, of ten companies to each regiment, and one hundred men to each company, to serve for the period of three years, in guarding and protecting the emigrant routes and telegraphic lines, and of conveying the mails, between the Missouri river and the settlements in California and Oregon, in the manner hereinafter provided: There shall be established a line of military posts, say ten in number, at convenient and suitable points on said routes, and garrisoned by a sufficient force, say one hundred men at each post; and there shall also be established, in addition to said military posts, station houses at suitable places and distances, not exceeding twenty miles apart, throughout the entire length of said routes, to be guarded and protected by at least twenty men at each station; said posts and station houses to be of a cheap and temporary character, yet strong enough for the purposes of defence, and of affording the protection contemplated by this act, and to be erected by the volunteers, from materials to be obtained in the vicinity of the route.

Sect. 2. *And be it further enacted*, That it shall be the duty of the said volunteers, under the direction of the President of the United States, to keep the roads on said routes in good traveling condition, with safe bridges and ferries across the streams; to carry the mails, and to protect all telegraphic lines and persons employed in establishing and working the same, and all emigrants, travelers, settlers, and traders along the line and in the vicinity, from hostilities and depredations by the Indians, and to aid in the execution of the laws, whenever called upon by the proper authorities.

SECT. 3. *And be it further enacted*, That the said volunteers, in accordance with such reguations as the President shall prescribe, shall be required to raise, gather, and preserve all the provisions, breadstuffs, forage and supplies, of whatever kind, which shall be necessary to sustain themselves and their animals, without cost to the government, to the fullest extent that the country can be made to yield and produce the same.

SECT. 4. *And be it further enacted*, That the colonels of the said regiments shall be appointed by the President, by and with the advice and consent of the Senate, and all other officers of said regiments, commissioned and non-commissioned, shall be elected by the volunteers, in accordance with such regulations as the President shall prescribe. And the volunteers shall be enrolled for the period of three years, and all officers and men composing said regiments shall be entitled to the same pay and emoluments as are allowed, by the act referred to in the first section, to the officers and men of the regiment of mounted riflemen respectively; and in addition thereto shall be entitled, so soon as said military posts and stations shall have been established, to select, each for himself, one section or six hundred and forty acres of land along said routes, but not to include the tracts upon which said posts and stations shall be located, which are hereby reserved for public uses, and they shall receive patents from the President for said lands, upon the expiration of their respective periods of service; and in case any such volunteer or officer shall die while in the service, the land to which he would have been entitled shall be granted to his heirs. But the said volunteers shall furnish their own clothes and horses and horse equipments, and when mustered into service shall be armed at the expense of the United States.

SECT. 5. *And be it further enacted*, That whenever it shall become necessary, for the purpose of carrying the objects of this act more fully into effect, the President of the United States is hereby authorized to increase or reduce the number of said posts and stations, or to change their location, or to increase or diminish the number of men to be stationed in any of them, according to the necessity and circumstances of the case.

SECT. 6. *And be it further enacted*, That Henry O'Rielly, and such persons as he shall associate with him, are hereby authorized, at their own expense to establish and operate lines of telegraph communication over the public domain along said routes, and under the protection of said military posts and stations, subject to such regulations and conditions as shall be prescribed by the President; and during the period of three years shall be permitted to use the military posts and stations as telegraphic stations, free of charge.

SECT. 7. *And be it further enacted*, That in order to enable the President to carry into effect the provisions of this act, including the supplies of live stock, agricultural implements, and the extinguishment of the Indian title to lands along the routes, the sum of dollars is hereby appropriated, out of any money in the treasury not otherwise appropriated.

Debate on the Bill.

On the 13th of July, Mr. Douglas called up the bill, and proposed to fill the blank with an appropriation of $100,000 towards enabling the President to carry out the provisions of the bill. Mr. D. remarked, that, so far as the Telegraph was concerned, Mr. O'Rielly asked no special favors from Congress; he asked only that the route be established so as to provide for the safety of any and all persons concerned in erecting telegraph lines or other improvements. And he, Mr. D., therefore consented, by suggestion of Mr. O'Rielly himself, that Mr. O'R.'s name should be omitted, if desired, so as to leave the matter of telegraphing open to any company that might choose to embark in the enterprise.

Mr. Hale, of N. H., said the Senate might as well fill the blank with the real cost, at once. From 1840 to 1844, the cost of the army in the Atlantic States in time of peace, and before the acquisition of Texas and the new territories, was at the rate of one thousand dollars a year for each man. That cost had not been reduced since then. These regiments would amount to three thousand men, which at one thousand dollars each, would amount to three millions of dollars a year for their support. It was just as well to put that sum in at once as to leave it for future bills.

Mr. Douglas replied, that the great cost of the army was for transportation, which expense would not occur in the present proposed force.

Mr. Mason thought that this bill, which proposed an increase of the military force of the United States, ought to undergo the revision of the Military Committee. At present he could not vote for it. It proposed to establish a military force, costing annually at least three millions, for the purpose of protecting a telegraph line which was not in existence, and would not be, perhaps, for a century to come, and to protect a mail which is not carried by that route, and which, if carried, would greatly increase the expense of its transportation. If the object be to protect the country, and pursue the Indians, the three thousand men would have as much as they could attend to, without having to cultivate and gather crops. He moved that the bill be referred to the Committee on Military Affairs.

Mr. Douglas said the object of the bill was to protect the great emigrant route. There were now on the plains twenty thousand men, women, and children, wholly unprotected from the Indians by any military force. They ought to be protected, either by keeping a portion of the army there, or by this system of military colonization. The latter he thought was the better and cheaper.

Mr. Borland, of Arkansas, followed, in favor of the bill, and against the commitment.

Messrs. Dawson and Butler opposed the bill, and after continuing the debate till three o'clock, the bill was postponed until the following week, when Mr. Rusk, of Texas, and Mr. Brodhead, of Pa., proposed some amendments; which amendments were referred to the Committee. And no further action upon the subject occurred during the session.

Thus stands this great national question of intercommunication and settlement across the American continent. Such was the general good feeling towards the measure, that the New-York Express declared that it "promised to command a majority in both Houses of Congress." It can scarcely be doubted that some bill of the kind will prove successful at the next session of Congress, during the brief space between this date and the 4th of March.

It may not be amiss to mention here, that an "amendment" of a mighty character has been proposed to the original bill, providing for an appropriation of lands to construct *two* railroads—on northern and southern lines—between the Mississippi and Pacific, allowing the Companies ten years to complete each road. It remains to be seen whether the American people will submit to be delayed so many years in the establishment of such a system of intercommunication, by mail and telegraph, as Mr. O'Rielly proposes for accomplishment almost within as many months.

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Theodore Parker says, "Mr. Leaning-bothways is a popular politician in America just now, sitting on the fence between honesty and dishonesty, and, like the blank leaf between the Old and New Testaments, belonging to neither dispensation."

"Abuse" of the Telegraph.

Donald Mann, Editor Amer. Tel. Mag.

Sir—The allusions in your first number, to certain alleged "abuses," on at least two Telegraph Lines, render it proper, in justice to all well-managed Companies, and to all honorable men employed in Telegraphic duty, that you should indicate clearly the precise locality and perpetrators of the alleged dishonorable acts. As it is unjust that honorable men should suffer under any vague and unfounded suspicions (especially as you render justice by saying, "it is very gratifying to know that, in a business so widely extended and seemingly so irresponsible, the claim to public confidence has been so seldom forfeited"), I am sure you will readily recognize the propriety—nay, the *strict justice*—of being more specific in your charges; that it may be clearly seen what telegraphers (if any) have been guilty of misdeeds which should subject them to "the same amount of public justice and indignation as is meted out to other candidates for the penitentiary and whipping-post."

Yours, Inquirer.

(Remarks by Ed. Tel. Mag.)

The above is one of the communications which we have received in reference to an article in our first number, entitled "Abuse of the Telegraph." In that article, after noticing that the New Orleans Picayune charged "a regular system of swindling" upon some telegraphers in New Orleans, we proceed to say:—

"A complaint similar to that of the 'Picayune' was at one time made, and in some degree substantiated, by an Agent of the Associated Press of New York. He charged, and we believe produced evidence of the fact, that the news bought and paid for by the 'Association' was stolen and sold to other papers, by several telegraphers, who colluded together for the purpose of making money out of the infamous business. How this affair eventually terminated, we are not aware; but this much we can say, neither the Press nor private individuals can render a more important service to the 'Telegraph,' or one that will be more highly appreciated by all honorable men engaged in that business, as well as by the community, than by immediately naming and fully exposing every person proved to be directly or indirectly interested in such nefarious practices; and the Managers of Telegraph lines will inevitably find it to be the worst possible policy to endeavor to 'hush up' such matters, and retain the delinquents in their offices."

"Inquirer" will perceive that we do not make the charge, but merely state that Mr. Craig, Agent for the "Associated Press," did do so, and we believe, fully sustained what he said. Still, we have no sort of objection to stating with reference to what line the charge was made—to the end that no other welegraphers may suffer obloquy or reproach for a piece of rascality which we would wish to believe had never been committed more than once, or on more than one line.

The Telegraph upon which the persons accused of "news swindling" were engaged, is the "Atlantic and Ohio Line," extending from New York to Pittsburg, and was at that time and still is under the superintendence of Jas. D. Reid, Esq. The persons said to be engaged in the news speculations, were employed in the company's offices at Pittsburg and Philadelphia. The evidence against them seemed to be conclusive, inasmuch, as one of the honorable men engaged on the line, seeing a criminal conversation passing through his office, between the conspirators at Pittsburg and Philadelphia, allowed his machine to run, and so secured on paper, and preserved, their whole plan of operations. Had he had not been later in his office than usual, it would have passed through undetected.

We believe Mr. Reid was put in possession of all the facts, and that he promptly discharged those who had thus disgraced themselves and the line which employed them.

Alleged Improvements in Telegraphic Batteries.

(Extract from the Scientific American.)

A few weeks ago we published a few statements respecting an invention made by George Little, in Electric Telegraphs, and the *New York Courier and Enquirer* copied them. Some person connected and acquainted with telegraphs has endeavored to correct some things in the short article, but it is very evident he is a careless reader. It was thus stated in the article referred to:—"Mr. Little calculated to save $200,000 to the Telegraph Companies; he does not use platinum, mercury, nitric acid, nor sulphuric." Out of this the corrector goes on to prove that this cannot be, as the batteries for all the telegraphs in our country involve only an expense of about $12,000 per annum. This may be true; we know that Mr. Jones puts down the expense for batteries at a far lower figure—only $6,100; but the article referred to did not state that the whole saving was to be effected in the battery; it only states, he does not use certain materials, and no more. He also asserts that Mr. Little "has discovered nothing new, that the idea of substituting the magneto-electric machine for the galvanic battery, is not a new one. In 1845, Professor Morse made the experiment on the magnetic principle on the line between Baltimore and Washington, using a magneto-electric machine belonging to Dr. Page, of the Patent Office." He also states that Mr. Davis, of Boston, and Mr. Baily, of Detroit, made successful experiments with a like machine. We would state that like experiments were made twenty years before Professor Morse attempted it; but how does this man know what machine Mr. Little uses? It was stated in our article that he recorded messages exactly like the chemical records of Bain. Prof. Morse never did that, and if Davis and Baily have done so, let them produce the documents.

(To the Editors of the Courier & Enquirer.)

The above notice of my remarks published in the *Courier* a few days ago, I cut from the *Scientific American.* The writer intimates that there are other savings to be effected by the use of Mr. Little's machine, besides the saving made in the battery consumption. I presume he alludes to the cost of the labor necessary to keep the battery, as now used, in working order. This item, though of some magnitude, I omitted to notice, it is true. Its addition, however, to my estimate of the cost of the present telegraph system, would not invalidate my conclusions, as it is more than balanced in the cost of turning Mr. Little's machine, without which he could produce no electricity whatever.

The writer in the *American* asks:—"How does this man know what machine Mr. Little uses?" I answer, because I have seen the machine, have had its uses and working explained to me by the inventor himself, and have, moreover, seen its power fully tested with a galvanometer.

It is very true, as the *American* asserts, that the experiments of Mr. Morse and the other gentlemen, to which I referred in my former communication, were not the first in which the magneto-electric machine was applied to the working of telegraphs. Steinheil's telegraph, among others, was worked with it.

But the machines used prior to the machine of Mr. Morse did not produce a continuous current of electricity, as does the latter, and those of the other experimentalists to which I referred. Mr. Little's machine will not work fifty miles of telegraph, while that of Mr. Bailey, of Detroit, alluded to in my former communication, developes a current of electricity that will work one hundred and fifty miles, successfully, as was amply proved by the experiment I mentioned.

The writer in the *American* informs us that Mr. Little's machine records messages "exactly like the chemical records of Bain," and that this was "never done by Professor Morse." Now, the fact is, the battery-power, or electricity, used to work the Bain telegraph, is the same precisely as that used by Mr. Morse. There is no difference whatever in the principle of the two systems. But the *records* produced by the two machines differ in appearance, and that is because the Professor applied the electricity to the magnet, while in the BAIN system it is applied directly to the chemically prepared paper. Mr. LITTLE's machine, therefore, is no more applicable to the one than to the other of these systems; and hence, as I said in my former communication, I cannot see any thing new, or useful, in his assumed improvements. D.

(Remarks by Editor of Amer. Tel. Magazine.)

We believe that Mr. LITTLE exhibited his magneto-electric battery to us before he had shown it to any one else in America, unless, perhaps, Mr. MUNN, of the "*Scientific American*, had seen it. But we are inclined to think that he did not see it at all, or his opinion of it would have been more nearly correct. We have seen this battery of LITTLE's spoken of in papers from all parts of the country as a "new invention," likely to have a very great effect on the cost of working telegraph lines; when, in truth, it is not new, and is of no sort of use in telegraphing. Others have carried the same idea much further than Mr. LITTLE.

The writer of the above article from the *Courier & Enquirer* understands perfectly what he writes about, and states the matter clearly and correctly.

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Complaints of Fictitious Dispatches in Private Transactions.

The proposed Telegraphic Convention in Washington, next March, will probably find one of its most important duties to consist in providing for systematic and prompt investigation of complaints connected with the receipt and delivery of dispatches, especially in cases where the dispatches pass over *several* lines to reach their destination. At present there is frequently great difficulty experienced in tracing out the precise locality of errors or abuses on long routes; as there is not that well organized system existing which should clothe some person or committee with authority to enforce prompt attention from each of the several lines over which dispatches for long distances have frequently to pass. Inquiries from subordinate officers of one company, are sometimes resented as unjust reflections upon the conduct of officers of other lines; and, at any rate, the delay and trouble commonly experienced in tracing out the difficulties, dishearten the generality of inquirers, and induce many to submit to the annoyance rather than waste more time or money or patience in trying to find and remedy the cause of difficulty.

A correspondent furnishes some facts which may be taken as an illustration; and we publish them, for the purpose of showing a case involving more than ordinary complaints, and of attracting the attention of the officers of the Ohio and Mississippi Telegraph Company, at St. Louis, to a thorough examination of those complaints.

The facts set forth in a letter before us (from a highly respectable gentleman residing in Bond-street, New-York), represent that, on the 18th of October, 1851, his wife (Mrs. H.), after inquiring repeatedly for dispatches from her husband in New York, received from the Telegraph office at St. Louis (where she then was), what purported to be a telegraphic dispatch from him—which dispatch he *never sent*, and it was therefore a mere fabrication—Mrs. H. having paid $1 65 for the message to which the above was a *pretended* reply.

On the 8th November, 1851, Mrs. H. again received *another fictitious reply* to another dispatch which she previously sent to her husband —which dispatch he *never received.* For this last dispatch (which failed to reach her husband, but to which she received from the St. Louis office a forged reply), she had paid the same price to an officer there.

Again—for a dispatch received at St. Louis on the 6th November, 1851, Mrs. H. was made to pay $1 90—although Mr. H. *prepaid* it in New York, of which the evidence is furnished by the certificate of Mr. Zook, late chief telegrapher of the O'Rielly Lines here, who referred to the accounts and records for that purpose.

We select this case as involving more than ordinary causes of complaint—and as one showing that the facilities for abuses of this kind require immediate and thorough preventive regulations, in justice alike to the interests of the Telegraph Companies and of the public. Our aid will be promptly rendered in any discreet efforts which our correspondents think proper to make for correcting these or other abuses of the Telegraph System.

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Illinois and Mississippi Telegraph.

(From a Correspondent.)

The Editor of the American Telegraph Magazine will oblige several of his readers by stating whether the law under which the "Illinois and Mississippi Telegraph Company" was organized, authorized the imposition of any tax upon the stock. If not, how is it that an assessment has lately been ordered upon the stock—a proceeding which, I believe, is almost unprecedented in the annals of American Telegraph Companies.

Respectfully, PENN.

(Reply.)

We are glad to find that our correspondent has called our attention to the condition of the Illinois and Mississippi Telegraph.

Its present attitude is an extraordinary one n the history of Telegraph Companies in America; and were it not the result of extraordinary circumstances, to which other lines are not liable, it might seem to some to be a reason for not investing money in such property.

The Illinois and Mississippi Telegraph was constructed under the arrangements of Henry O'Rielly, but not under his personal observation; and it must be admitted that his agents did not show either much skill or judgment in the manner that some important parts of the line were built. Much of it was placed so near the banks of the Illinois and Mississippi rivers, that large sections were either entirely destroyed, or so greatly damaged by extraordinary floods, as to require rebuilding on the high lands. An expensive mast, by which the wire was taken over the Mississippi, was maliciously cut down—a misfortune which we believe no other company has ever experienced. Other great difficulties occurred at the crossings of the Mississippi. These, with other things, have brought the Company in debt for a small amount. And it was, wisely, judged prudent to levy a small tax on the stock, and put the line in complete order for promptly answering all the requirements of the business community of the West.

None, in comparison to their numbers, use the Telegraph so much as the western people. Their business is principally of that kind which requires it. We might, probably, say that those engaged in the produce and provision business, do more than half of the whole telegraphing of the country. But we have nearly neglected to answer our correspondent's inquiry.

The law under which the line in question was organized, does not authorize or contemplate any tax on the stock of the Company. But about the middle of June last, an amendment to that law was passed by the Legislature of Illinois, authorizing the Board of Directors of the Company, to levy a tax, at their discretion, on the stock. Those who have paid this tax, have acted prudently and wisely; and we should advise those who have not paid it, to consult their interest and buy it in when the Company offer it for sale for the same, which will be about the first of December, proximo.

Hon. John D. Caton, of Ottowa, Ill., is the President of the Company. He has, we believe, the entire control and management of the working of the line.

We publish in another place, the Telegraph Laws of Illinois, for the information of readers generally, as well as with particular reference to the organization and affairs of the Illinois and Mississippi Telegraph Company.

The lines of this Company, extend from Chicago to St. Louis, including all the principal cities and towns of the Illinois Valley. They also include nearly all the prominent cities and towns on both sides of the Mississippi, from St. Louis, northward, to Galena and Dubuque. The routes are admirable—the whole regions are rapidly increasing in population and wealth—and, the early difficulties being overcome (as we hope they are nearly), it cannot be doubted that the Telegraph lines, like all other "improvements" in those glorious regions, will "pay well."

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General Telegraph Law of Illinois,

And the Special Law concerning the "Illinois and Mississippi Telegraph Company."

Inquiries made by several correspondents in reference to the "Illinois and Mississippi Telegraph Company," and the public interest attaching to the subject of Telegraphs in that important State, induce us to publish a transcript of the General Law of Illinois, and the special law lately passed concerning the "Illinois and Mississippi Telegraph Company"—which will be found useful for reference in connection with remarks in another page of this Magazine:

An Act for the Establishment of Telegraphs.

SECTION. 1. *Be it enacted by the people of the state of Illinois, represented in the general assembly,* That any number of persons may associate for the purpose of constructing a line of telegraph through this state, or from and to any point within this state, upon such terms and conditions, and subject to the liabilities prescribed in this act.

SEC. 2. Such persons, under their hands and seals, shall make a certificate, which shall specify, 1st, the name assumed to distinguish such association, and to be used in its dealings, and by which it may sue and be sued; 2d, the general route of the line of telegraph, designating the points to be connected; 3d, the capital stock of such association, and the number of shares into which the stock shall be divided; 4th, the names and places of residence of the shareholders, and the number of shares held by each of them respectively; 5th, the period at which such association shall commence and terminate: which certificate shall be proved or acknowledged, and recorded in the office of the clerk of the county where any office of such association shall be established, and a copy thereof filed in the office of the secretary of state. Such acknowledgment may be taken by any officer authorized to take the acknowledgment of deeds of real estate, in the place where such acknowledgment is taken.

SEC. 3. Upon complying with the provisions of the last preceding section, such association, and their successors and assigns, shall be and hereby is declared to be a body politic and cooperate, by the name so as aforesaid to be designated in said certificate; and a copy thereof duly certified by the clerk of the county where the same is filed and recorded, or by the secretary of state, may be used as evidence in all courts and places for and against any such association.

SEC. 4. Such association shall have the power to purchase, receive and hold, such real estate as may be necessary and convenient in accomplishing the objects for which such association may be formed, and may appoint such directors, officers and agents, and employ such servants, and make such prudential rules, regulations and by-laws, as may be necessary in the transaction of the business, not inconsistent with the laws of this state or of the United States.

SEC. 5. Such association is authorized to construct lines of telegraph, and maintain such as are already constructed, along and upon any of the public roads and highways, and across any of the waters, and across and over the lands, whether public or private, within the limits of this state, by the erection of the necessary fixtures, including posts, piers or abutments, for sustaining the cords or wires of such lines; provided the same shall not be so constructed as to incommode the public use of said roads or highways, or injuriously interrupt the navigation of said waters; nor shall this act be so construed as to authorize the construction of any bridge across any of the waters of this state.

SEC. 6. If any person over whose lands said lines shall pass, upon which said posts, piers or abutments, shall be placed, shall consider himself aggrieved or damaged thereby, it shall be the duty of the circuit judge within whose district such lands are, on the application of such persons, and on notice to said association (to be served on the president or any director), to appoint three discreet and disinterested persons as appraisers, who shall severally take an oath, before any person authorized to administer oaths, faithfully and impartially to perform the duties required of them by this act; and it shall be the duty of said appraisers, or a majority of them, to make a just and equitable appraisal of all the loss or damage sustained by said applicant by reason of said lines, posts, piers or abutments; duplicates of which said appraisement shall be reduced to writing, and signed by said appraisers or a majority of them; one copy shall be delivered to the applicant, and the other to the president or any director or officer of said association or corporation, on demand; and in case any damage shall be adjudged to said applicant, the association or corporation shall pay the amount thereof, with costs of said appraisal, said costs to be liquidated and ascertained in said award; and said appraisers shall receive for their services two dollars for each day they are actually employed in making said appraisement.

SEC. 7. Any person who shall unlawfully and intentionally injure, molest, or destroy any of said lines, posts, piers or abutments, or the materials or property belonging thereto, shall, on conviction thereof, be deemed guilty of a misdemeanor, and be punished by a fine not exceeding five hundred dollars, or imprisonment in the penitentiary not exceeding one year, or both, at the discretion of the court having cognizance thereof. Prosecutions under this act shall be by indictment, in any court having criminal jurisdiction.

SEC. 8. It shall be lawful for any association of persons organized under this act, by their articles of association, to provide for an increase of their capital, and of the number of the association, and for the extension of new lines of telegraph, from time to time, as they may think proper.

SEC. 9. If any association or associations, organized under this act, shall refuse to receive dispatches from and for other telegraph lines or associations, and shall refuse to transmit the same in good faith, and with impartiality, such association or associations, so offending, shall forfeit all rights and privileges acquired under this act, and the same shall cease and be dissolved.

SEC. 10. The legislature may at any time alter or repeal this act.

SEC. 11. It shall be the duty of all persons employed in transmitting messages by Telegraph, to transmit them in the order in which they are received; and any person who shall fail so to transmit messages, or who shall suppress a message, or who shall make known the contents of a message to any person other than the one to whom it is addressed, or to his attorney, shall be deemed guilty of a misdemeanor, and be punished by a fine not exceeding one thousand dollars.

SEC. 12. Process or notice served upon any clerk or agent of any of said companies formed under this act, at any of the offices of such company, shall be deemed sufficiently served for all purposes whatsoever.

SEC. 13. This act is hereby declared to be a public act, and to take effect on its passage.

APPROVED: February 9, 1849.

An Act to Amend the Charter of the Illinois & Mississippi Telegraph Company.

SEC. 1. *Be it enacted, &c.*, That the Board of Directors of the Illinois and Mississippi Telegraph Company, are hereby vested with power to levy, from time to time, assessments upon the capital stock of said Company, of such amount as may be sufficient in the opinion of said Board of Directors to pay the debts and liabilities of said Company, and to repair and re-construct the lines of Telegraph belonging to said Company, and to keep and maintain the same in good working order.

SEC. 2. The said assessments shall be levied by orders of the Board of Directors, which shall specify the amount of the assessments levied upon each share of the Capital Stock, and all the assessments shall be equal and uniform, so that each share of said Stock shall be assessed to the same amount.

SEC. 3. After any order shall have been passed by the said Board of Directors, levying any such assessment, notice thereof shall be given to the Stock-holders of said Company, by publication for twenty days in some newspaper printed in each county in this State within which the said Company shall have a Telegraph Station, if there be any newspaper printed in said County; and it shall be the duty of the publishers of such papers to file certificates of said publication with the Secretary of said Company, which certificates shall be evidence of such publications in all places, should such publications ever be called in question. And a certificate from the Secretary of said Company that any publications have been made, as by this Act required, shall be *prima facie* evidence thereof in all courts and places whatever.

SEC. 4. If payment of any assessment upon any share or shares of said Stock, shall not be made to the Treasurer of said Company within the time limited by the order of the said Board of Directors levying such assessment, which shall not be less than thirty days from the time of the passage of such order, it shall be competent for the said Board of Directors, and they are hereby vested with full power to declare any and all Stock of said Company, upon which any assessment shall not have been paid, to be forfeited to said Company. And the said Stock shall be, and the same is hereby declared to be forfeited and canceled.

SEC. 5. In case the said Board of Directors shall not think it advisable to proceed by their own order to declare such Stock forfeited, upon which any such assessment shall not have been paid, it shall be competent for said Company to apply to the court of Chancery in any county in this state, within which the said Company shall have a Telegraph Station, by petition, setting forth the order of the Board of Directors levying such assessment, the fact of publication of notice of said assessment, as required by this Act, and the non-payment of said assessment, describing the Stock by its numbers, and praying the said Court to decree that the said non-paying Stock be forfeited to said Company, and that the same be canceled; or the prayer of the said petition may be, that the said Court may order the said non-paying Stock to be sold by the Treasurer of said Company to the highest bidder; and the said Company is hereby authorized to bid at such sale upon the Share or Shares offered, the amount of the said assessment, and no more; and in case the same shall be sold to said Company, the same shall be canceled. But in case any person shall pay more for said Stock than the amount of the assessment, it shall be the duty of the Secretary of said Company to issue a certificate of said Stock to the purchaser; and the original certificate or certificates of the Stock thus sold, shall be, and the same is hereby declared to be canceled and void. And the amount paid for said Stock, over the amount of the assessment, shall be paid over to the owners of said Stock.

SEC. 6. The said Court of Chancery is hereby vested with jurisdiction to grant the relief which may be prayed for in said petition, according to the provisions of the preceding Section. And the said Court of Chancery is hereby declared to be always open for the purpose of executing said jurisdiction, and to make any order or decree in relation thereto.

SEC. 7. Notice of the pendency of said petition shall be published for at least two weeks, in some newspaper published in the county where such petition shall be filed, and a copy of such notice shall be filed with the Secretary of said Company, certified by the publishers.

SEC. 8. The official certificate of the Secretary and Treasurer of said Company shall be *prima facie* evidence of the non-payment of any such assessment.

SEC. 9. The said Board of Directors may transact business without assembling together in open meeting, by means either of Telegraph or written communications. And the votes of Directors may in this way be given and ascertained. And any order, by-law, or resolution in favor of which a majority of the Directors shall vote, by forwarding their votes to the President or Secretary of said Company, either by Telegraph or written communication, shall be entered of record by the Secretary of said Company, and shall be valid and binding to all intents and purposes.

SEC. 10. The said Board of Directors is hereby authorized and empowered to adopt and pass all orders, resolutions, and by-laws, which the interest, well-being, good order, and management of the affairs of the said Company may require, not inconsistent with the laws and constitution, either of this state, or of the United States; and with a view, as far as possible, to the stability, continuance, and regular working of said Telegraph, or as much thereof as it is practicable for said Company to maintain and support, in the opinion of the said Board of Directors, and may vest in their subordinate officers all necessary powers therefor.

SEC. 11. The said Board of Directors is hereby authorized and empowered to divide their lines of Telegraph into such divisions as may be deemed convenient and proper; and may provide for the government and management, in whole, or in part, of such divisions, and may separate the financial interests and liabilities of each division from the others. And any debt or liability contracted or incurred by the officers or governmental authority of one division for or on account of that division, shall only create a special liability against said Company, so as only to subject the property assets, resources, and funds of such division to the payment thereof.

SEC. 12. All process to or against said Company, shall be served by reading to or leaving a copy thereof with the President or Secretary of said Company.

SEC. 13. It shall be unlawful for any person to fasten any boat or vessel to the posts or poles of said lines of Telegraph, or to check the progress of any boat or vessel by means thereof. And any person who shall do so, or cause the same to be done to the injury of the said lines of Telegraph, shall be liable to the same punishment, and may be prosecuted in the same way as is provided in Section 7 of an Act, entitled, "An act for the establishment of Telegraphs," approved February 9th, 1849—and shall moreover be liable to pay to said Company three times the damage which such injury may cause, which may be recovered before a Justice of the Peace, or Circuit Court of the proper county.

SEC. 14. A certified copy by the Secretary of said Company, of any order, by-law, or resolution, passed or adopted by the Board of Directors of said Company, shall be evidence of the due passage or adoption thereof in all courts and places whatever.

SEC. 15. This Act to take effect, and be in force from and after its passage.

Approved, June 16th, 1852.

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Telegraphing in Japan!—Taking Time by the Forelock!

The "world in general" is tolerably well informed by this time, that the ships of the celebrated and much-talked-about Expedition to the Japanese Empire, are actually about to set forth, under sail and steam, for their important destination, under the broad pennant of Commodore PERRY: And the "particular world of lightning" may not be uninterested to learn, that, through the wisdom of our worthy President FILLMORE and his gallant Commodore (not forgetting the enlightened Secretary of the Navy, JOHN P. KENNEDY), the attractions of a Magnetic Telegraph, under the Patents of Professor MORSE, have been added to the expedition; and our friend, WILLIAM B. DRAPER, of the O'Rielly Western Telegraph Lines, has been appointed "Telegraphic Engineer" of the remarkable Expedition. May they all "live a thousand years," and cast a broad shadow over the lands of Japan! We bespeak for our Magazine the first dispatch from Jeddo, after Commodore Perry hoists his "broad pennant" over the palace of the Ziogoon.

Seriously, though—probably nothing in the whole equipment of this highly important expedition, will strike the Japanese generally with more surprise than the exhibition of a "*lightning Telegraph*," as one among the many remarkable features of a naval expedition dispatched from a continent which was little known when Japan cut off nearly all intercourse with the Christian world "and the rest of mankind." Dispatches or letters from Mr. DRAPER, will be looked for with considerable interest; and as "sub-marine telegraphing" has hardly yet reached the perfection of underlying the *Pacific* Ocean with its wires (whatever it may soon do with the *Atlantic*), we must patiently await the arrival of steamers next year, via. California and the Isthmus, to apprize us of the "sayings and doings" of the Yankee diplomatists with powder and ball at the court of his Celestial Holiness of the Japanese Empire.

The Japanese scholars have kept themselves tolerably well supplied with the current scientific news of the Christian world, by means of the few Dutch vessels permitted to trade with their empire; and hence *they* will be measurably prepared to receive and appreciate (however skeptical their countrymen generally may be about) the wonders of that most wonderful of all "wunder-workynge" agencies. So good bye, friend DRAPER, and pleasant breezes waft you to the land of the rising sun!

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Telegraphs Connecting at New York.

There are eleven different telegraph lines which have offices in New York, and these offices are daily and hourly made the receptacles of information with regard to any thing noteworthy and extraordinary that is at the time occurring within thousands of miles. This miracle, or at least marvel, having been a daily achievement for the last few years, ceases to excite any special wonder; and we shall at present venture no remarks upon it, but confine ourselves to what is entirely *practical*. Annexed hereto will be found brief notices of the different lines connecting New York with other towns. A list of the offices, and the prices of communication, will be found under our advertising head.

1. Of the "Magnetic Telegraph Company," a broad name for a line of very limited extent of

Morse's Telegraph between New York and Washington—we may say now, in addition to our remarks in the last *Magazine*, that it is one of the oldest companies, and has probably paid its shareholders better than any other line in existence. This line has five wires, one of which is leased to the Atlantic and Ohio Telegraph Company, which extends from Philadelphia to Pittsburg, and one to the Western Telegraph Company, which extends between Baltimore and Wheeling; those two last-named companies being thus enabled to connect directly with New York. Mr. Swain, of the Philadelphia *Ledger*, is President of this Company; and our opinion of his capacity for the station was expressed freely on a former occasion. This company has offices in New York, at No. 202 Broadway and No. 5 Hanover street. It has offices at the principal points southward of New York, as far as Washington. The lines of this company were built partly by Mr. Kendall and partly by Mr. O'Rielly.

2. The "New York, Albany and Buffalo" Line, using Morse's Telegraph, was the first telegraph connecting New York with Buffalo and the intervening towns. It was also the first line in the State, with the exception of the one from New York to Philadelphia, and has now three wires. The reputation of this line, as compared with others, is good. We presume none have exceeded it in the promptness and accuracy with which it has served the public. We believe that it pays the holders of its stock handsomely. Theodore S. Faxton, of Utica, has been President of the Company ever since the line was built by him in 1846, and much of its success is attributable to his attention and management. Its New York office is at No. 2 1-2 Wall street.

3. The "New York and Erie Telegraph," using Morse's system, extends from New York to Dunkirk, and has an office in the former place at No. 6 Hanover street. It follows, pretty nearly, the route of the Erie Railroad. It is now, and we believe always has been, under the control and management of Ezra Cornell, Esq., by whom the line was built. The line has offices for business at nearly all towns in the southern tier of counties along or near the railroad. This line connects particularly with the Erie and Michigan Line, built by Col. John J. Speed, jr., of Detroit, who, we believe, is also concerned with Mr. Cornell in the ownership of the New York and Erie Telegraph Line.

4. The "New York State Telegraph Company" have an office in New York, at No. 29 Wall St. This Line uses, as yet, Bain's Chemical Telegraph, though with some additions. Its new name is the "Merchants' Telegraph."

It has not been a profitable investment for the greater period of its existence; though we are informed that it is paying better now than ever before. This line was well built, and is still in good condition. It extends from New York to Buffalo, with a branch from Syracuse to Ogdensburgh, and has offices for the transaction of business at the principal places on its route. This Line was built by Mr. O'Rielly, and the present President is Mr. Ellsworth.

5. The "New York and New England Union Telegraph Company," of which Henry M. Schieffelin, Esq., of New York, is President, comprehends the two lines formerly known as "Morse" and "Bain" Lines—it is now worked under the Morse Patents. Its New York offices are at No. 5 Hanover Street, and 29 Wall Street. Its superintendent and chief telegrapher, we mentioned in a former number. Out of two rival concerns, which were rapidly running each other down, there is now organized this one "Union" Company, in which all the former stockholders are interested, and which is probably yielding reasonable remuneration, though the business is still transacted at a very moderate price. One of the lines owned by this Company, the old Morse Line, was built and managed for several years by the Hon. Francis O. J. Smith. The other line which it owns, was built originally, under Bain's Patents, by Mr. O'Rielly.

6. The "House Printing Telegraph," between New York and Philadelphia, was the first line on which the "printing" instrument was used. It has been built about five years, and is now (having been lately extended to Baltimore and Washington), we believe, in a more prosperous condition than ever before. The offices of this line in New York and Philadelphia, have been conducted by those having them in charge, in a manner which has nowhere, in our judgment, been surpassed. The management of the whole line, however, until lately, has not, we think, equaled that of the offices mentioned. The Company transact business now, in all the principal towns between its termini. Its office at New York is at No. 21 Wall St. Freeman M. Edson, Esq., is the superintendent of the line. He is prominently known in connection with several of the "House Lines," and has recently completed this one to Washington.

7. The "House Printing" Telegraph between New York and Boston, has an office in the former city, at No. 21 Wall St. This line has been built and in operation about four years. It was the second line which used the printing apparatus in the United States. It was not well constructed in the first instance, and has been managed since but indifferently. A Company could hardly look for prosperity under such circumstances. But we are glad to know that the prospects of this line are improving—the Company having wisely confided the en-

tire management and control of the same to John McKinney, Esq.—a gentleman possessed of industry, experience, energy—in fact, all the requisites necessary to bring this line up from what it *has* been to what it *should* be. Mr. McKinney was formerly superintendent of the New York State Telegraph, and of the New York and New England Telegraph. He is now actively engaged in putting the "House Line" in a condition to be a respectable and vigorous competitor with the "consolidated" New York and New England Union Line, for the business between New York and Boston. This Company have opened offices for the reception and transmission of business at New York, New Haven, Springfield, Providence, and Boston. The uniform price of communicating between *any* of the offices on the line, is 25 cents for the first 10 words, and 2 cents for each additional word.

8. The "House Printing Telegraph," between New York and Buffalo, has its office in New York, in the same building with the two preceding, No. 21 Wall street. It is nearly a new line, having been completed but about a year and a half. It has two wires, of very large size, and is well and permanently built. It is under the superintendence of Anson Stager, Esq., formerly of Cincinnati. Mr. S. has been for a long time engaged in telegraphing, and thoroughly understands the business, and how to conduct it properly, and in a manner satisfactory to the public, and to the companies that employ him. He is also superintendent of the line from Buffalo to Louisville; and both Companies have cause to congratulate themselves on having secured the services of a person of such adequate abilities for the position he occupies. The Hon. Levi A. Ward, of Rochester, is President of this Company.

9. The "Western Telegraph Company," of which the Hon. Amos Kendall, of Washington, is President, has an office at 29 Wall street. The Line *owned* by the Company extends between Wheeling and Baltimore; but one of the wires of the "Magnetic Telegraph Company" is hired, to enable it to connect directly with New York. We know little about the condition of this Company, save that it is said to be improving on its former condition—a reform much needed.

10. The "Atlantic and Ohio Telegraph Company," and other Western Companies organized by Mr. O'Rielly, have an office in New York, at No. 2 Wall street, in the building of the Bank of the Republic. This range of lines extends several thousand miles, connecting with all the principal towns in the interior, through the Lake country and the Mississippi valley. J. D. Reid, Esq., is superintendent of several of these O'Rielly Lines, or "National Lines," as they are sometimes called—some of which have paid liberal dividends for several years, while others have not. Mr. Reid's eminent capacity as a telegrapher, is conceded; and by the arrangements lately effected between the Morse and O'Rielly Companies, between Louisville and New Orleans (they are now working harmoniously and profitably, after having almost ruined some of the former principal owners through the suicidal lawsuits and competition that existed between them), the lines under his charge are able to transact telegraphic business between the Atlantic Coast and New Orleans, as well as through the Mississippi Valley generally, more satisfactorily for the public than heretofore. Gen. J. K. Moorhead, of Pittsburg, is President of two of the Companies in this Western range of O'Rielly lines, which have their New York office, as above mentioned, at No. 2 Wall street.

11. The "Washington and New Orleans Telegraph Company," last but not least, has lines extending between the points named, and connecting all the principal towns along the seaboard. The lines were built by Mr. Haley and Mr. Lloyd, about five years ago. They are worked under the Morse patents. For a considerable part of the time since their construction, they afforded little profit to the stockholders, and less satisfaction to the public. But a spirit of improvement has recently shown itself in a manner tolerably satisfactory to all concerned in the Company. Between this seaboard route and the interior route over the O'Rielly National Lines, there is now a wholesome rivalry, which is probably beneficial to both, in making both more attentive to the public wants, and in securing for themselves the liberal remuneration which the increasing confidence and business of the country are affording to all *well-managed lines* on important routes. Elam Alexander, Esq., of Georgia, is President. By hiring one of the wires of the "Magnetic Telegraph Company," between Washington and New York, Col. Alexander's Company connects itself directly with New York city; and has an office at No. 6 Hanover street.

☞ These brief sketches are designed to aid in eliciting fuller information concerning the condition of the several lines and companies. Any and all authentic information about those or any other companies, will be thankfully received, and will be used by us in such manner as to convey to the reader the fullest knowledge within our reach on all important points connected with telegraphic operations.

We will endeavor to ascertain and publish the *rates* of dividends paid on the several lines which have paid any thing—to satisfy inquiries, and as a matter of interesting record for future reference.

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To Telegraphers Generally—Information and Suggestions Requested.

We earnestly invite Telegraphers generally to favor us and the public with their views concerning the improvement of the Telegraph system in any and all respects. Practical men, in the constant business of Telegraphing, must necessarily become aware of various points wherein improvement may be made, and should be promptly made, for the common benefit of the public, the Telegraph Companies, and the Telegraphers themselves. If we do not publish *all* the communications, we may (as we do) at least avail ourselves of suggestions from various sources; and all communications addressed to us will be considered entirely confidential, so far as the writers may not choose to appear distinctly before the public. It is, however, to be always understood, that no communication will be attended to, for which the author does not entrust us with his name, as a guarantee for its authenticity.

We cordially thank those who have already promptly honored us with their encouraging remarks, the effect of which we will endeavor to manifest, by increased attention to the duties of our editorial office.

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Official List of American Telegraphers—their Locations, &c.

No Telegrapher, certainly, will dispute the remark, that the position which he holds is of a more confidential character than the generality of offices under either Federal or State Governments.

The Postmaster, for instance, who receives and delivers *sealed* letters, the contents of which letters he dare not attempt to learn without subjecting himself to the penalties of felony for violating the sacred "seal" of an epistle,—how can even *he* compare, in some respects, with the Telegraph Operator and Receiver, through whose hands, and before whose eyes, pass the secret communications of the whole business community? Without disparaging the office of Postmaster, it may be said that the office of Telegrapher in any city or town is superior to it, inasmuch as it involves a higher investment of the *confidence* of the whole community—of all sexes and parties, as well as of all sorts of business.

Considering the office of Telegrapher in these lights, we desire to present to the public a full and satisfactory list of all persons engaged as officers of any kind on the Telegraph Lines in America—not in the United States merely, but in the British Provinces, in Mexico, and wherever else "manifest destiny" has led or is leading the "lightning" abroad over this capacious "continent of ours."

To you, and you, and you, sir!—to each and all of you, Telegraphers and Receivers and Clerks, as well as Presidents, Treasurers, Secretaries, and Superintendents,—we address ourselves with another request, that such of you as have not already done so, will forward to us immediately your names, birth-places, residences, and stations, that we may be able, in our January number, to show the name and locality of every gentleman connected with the Telegraph system on the American continent. If any omissions shall be visible in the list, the fault will not be ours. We trust that each officer to whom this appeal is addressed, will, without further invitation or urging, do instantly what so many gentlemen have already done — send us his name and location, &c., for insertion in the "American Telegraph Register for the year 1853."

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"Printing" Telegraphs—and their Comparative Merits.

The correspondent who inquires our opinion about "Printing" Telegraphs, is respectfully informed, that, while we suppose we understand him as "speering" about the comparative merits of instruments that print Roman letters on the HOUSE plan, or telegraphic characters on the MORSE plan, we reply that we would as soon undertake to express an opinion about the comparative merits of the Greek and Roman Alphabets.

Each is well in its way; and those whose business it is to use them, understand the one as well as they could the other. Whether with Morse's or House's, or any other plan, the Telegrapher who *sends* the message, must *read* and *transmit* the dispatches *correctly;* or, like a bungling type-setter, his "proof" (the telegram as it appears at the other end of the line) will show errors, greater or lesser, whether the record be made in Roman or Greek letters, or dots and lines, or any other hieroglyphics.

It is a fact worthy of notice in connection with telegraphic history—a fact for which we have the highest testimony—that no documents of equal extent were probably ever put in type with fewer errors, than some of the longest public documents and speeches were sent across the wires by *dots* and *lines*—by such telegraphers, as James D. Reid or David Brooks—as for instance, the longest of the long messages of President Polk, and sundry speeches of Clay and Webster, as well as the proceedings of sundry legislative bodies, including the Federal Congress. By naming the above-mentioned persons, we mean no disparagement to many excellent Telegraphers using *dots* and *lines* in Morse or Bain Companies such as SWAN or PRESCOTT on the New York and New England Union Line, and WOOD on the New York and Buffalo Line, and others that might be named on those and other lines. The recollection and experience and judgment of Telegraphers generally, can determine whether we are correct or not. If we are wrong, let us know, that we may publish the correction of our error.

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Improvements in Telegraphic Alphabets—Real or Supposed.

Some modifications of the dots and lines, as used by Morse and Bain, are proposed by Mr. President Schieffelin, of the New York and New England Union Line. The object aimed at, is to lessen the number of dots and lines and spaces ordinarily required in making telegraphic characters to represent the letters most used in correspondence. The object is certainly worthy of steady consideration; and, indeed, it may be attained, in some degree; but, while we express our appreciation of the enlightened efforts of Mr. Schieffelin and others, in this particular, we would respectfully suggest that, unless some *decided* advantage is gained, it would be a matter of very doubtful expediency to disturb the already well-understood characters that represent the Morse or Bain alphabets—or we might say the Morse alphabet alone, as the Bain lines are gradually coming under the Morse Patents.

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Telegraph Clerks or Receivers—and Telegraphers in General.

A friend of ours who has had considerable experience in "lightning" from its earliest days, on the American Lines, down to the present time, usually divided the "operators" into two classes—which he denominated respectively "tappers" and "telegraphers"—the first class designating those who transmitted dispatches bunglingly, without proper appreciation of their character; and the other representing those who had some intellect and education to guide their manipulations. It is mortifying, for one who has extensive files of telegraphic dispatches, to see how many bear evidence of slovenly scholarship, not merely in punctuation, but in common spelling! But we won't enlarge upon *that*—as we hope (blessed be Hope!) for the "good time coming," when Telegraph companies shall *all* display common sense enough to know that the worst possible "economy" they can perpetrate, is to employ incompetent telegraphers because they can obtain them at less wages than any and all honorable men should be allowed, who are worthy of being entrusted with the custody of the *secrets of the community*, as well as with the *interests of the Telegraph Lines* which employ them.

The friend above-mentioned, who thus divided the Telegraph operators into two classes, used to say that, while the *Printing* offices were generally the best places to enlist good telegraphers (men accustomed to read and punctuate manuscript of all kinds), the post-offices were among the best schools from which to select the clerks or "receivers" at the Telegraph stations—for the reason that those who showed patience and tact enough to discharge satisfactorily the duty of post-office clerks, were generally best qualified to transact business with the public in receiving and delivering dispatches at a telegraph office.

Thus much by way of prelude to an extract from the New York Daily Times (a paper which we read with great interest), respecting the qualifications of post-office clerks; and we will merely add that every qualification set down as requisite in *post-offices*, and several others to boot, should be possessed by those who aspire to the station of Telegraph clerks or receivers, such as our friend M'Kinney wants on the House lines, of which he is superintendent—(and about which see the advertisements):—

"It is imagined by many," says the *Times*, "that it is the easiest thing in the world to discharge the duties of a post-office clerk or employee. But he is a rare specimen of human perfection who is fully endowed with all the requisite attributes for such a station. He must, in the first place, and above all, be honest and faithful, steady and industrious; and moreover, he must possess a quick eye, a nimble hand, and a knowing mind. His bump of caution should be large. He cannot be too cautious. His organ of memory should be prominent—a Henry de Mesnes in that particular. *He* could repeat the whole of Homer by heart. He should be an expert linguist and hieroglyphist, a Mezzofanti and Champollion, both combined in these matters. As to geographical attainments, he should be able to carry the whole of *Brooks's Gazetteer* in his cranium. Under the new post-office law, mail material to the amount of three or four pounds can be transported, and the public mail has become a kind of package, parcel, and express line, for the conveyance of all sorts of goods and chattels, but especially for jewelry, fine goods, stationery, confectionery, and any thing, in short, under the size and weight of cooking stoves or cotton gins."

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Wages of Telegraphers—A Matter in which the Public are concerned.

It is the worst possible economy to screw down the Telegraphers to the verge of starvation wages. No prudent banker, no discreet merchant, no sagacious farmer or mechanic, would feel assured of faithful service from any employee to whom he paid less than a reasonable (if not liberal) remuneration for his toil.

How is it with Telegraphers? Every day and every hour the wires are laden with dispatches of confidential and important character, valuable to all concerned — dispatches which, if divulged or used in any way, might not only injure much the writer or his correspondent, but perhaps more or less benefit the Telegrapher who could be base enough to "make merchandise of the news." And yet, while a vast amount of this most confidential and valuable business has been discharged for years with remarkable fidelity by the generality of Telegraphers on all the twenty thousand miles of lines in America—for the exceptions are fortunately so rare as to render the general remark more strikingly correct—it is a mortifying fact, that too many of the Telegraphic corps, whether employed at the "registers," or as "receivers" at the desks, are stinted upon salaries considerably below what any respectable clerk readily commands for his services in the banking and commercial houses which frequently entrust their most precious secrets to the keeping of the Telegraph Officers.

We deem it a duty alike to the Telegraph Companies, to the public, and to the Telegraph Officers, to call attention distinctly and emphatically to this crying evil of the Telegraph system; and we invite, from our friends all over the United States, a free and full expression on a subject which lies thus at the foundation of the integrity of the whole lightning enterprise.

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A Tour of Observation among the Telegraph Lines in America.

While this number of the *American Telegraph Magazine* is passing through the press, the editor is starting on a tour, which he will ("wind and weather permitting") continue, from time to time, till he shall have visited all the Telegraph Lines in the United States and British Provinces. He desires to "see for himself" how things are managed. He is anxious to witness how the lines are constructed, how worked by the Superintendents, Telegraphers, and Receivers—and how managed by Presidents, Secretaries, and Directors. Personal observation, and intercourse with persons engaged in the enterprise throughout the length and breadth of the land (though we cannot justly talk of either the *full length* or *breadth* of the land, till we annex Texas and Oregon and California to the telegraph system), will enable him to speak more fully and particularly, as he shall always aim to speak *independently*, of any and all lines in every direction, no matter under what flags they sail, whether known as "Morse," or "O'Rielly," or "House," or "Speed," or "Bain." The strictures elsewhere in this number, as well as in the first issue of our Magazine, will show that we hesitate neither to blame nor praise, on account of the colors under which any lines or telegraphers *do* or *don't* set their sails for the winds of public patronage.

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Telegraphing of Election Returns, Presidential Messages, and other Documents.

If the spirit of WASHINGTON could realize the wish of FRANKLIN by visiting this mundane sphere, somewhere about this year of our Lord, eighteen hundred and fifty-two, he, or it, would doubtless rejoice that American ingenuity and American enterprise have so thoroughly interlaced our broad territories with lightning network, that nearly all our vast and wide-spread population are bound together, not merely by political institutions, but by a Telegraph and Lightning-like affinity of intelligence and sympathy, that render us emphatically "ONE PEOPLE" everywhere (excepting Texas, California, and Oregon, which have yet to be annexed to us *by lightning* before they and we can fully enjoy *all* the blessings of our political institutions.) The Telegraph knows no boundaries among and between "the States;"—and indeed, its Lightning overleaps even the British Provincial boundaries, with a degree of impunity which speaks trumpet-tongued about the general cordiality prevalent between Johnny Bull and Brother Jonathan—no matter what may be said or sworn by flibusters of any kind, in all their Buncombe orations.

What better evidence of all this can be furnished, than the fact that the movements of the Federal Government at Washington, whether in the Capitol or at the White House, are commonly made known to the remotest extremities of the Union—except the two States above-mentioned, which we hope will not long remain exceptions—about as quickly as they can be known to the generality of residents within gunshot of the Federal Metropolis?

We know not exactly what feats may be attempted in the way of transmitting the forthcoming Presidential Message; but we do know that, until Texas and California are brought into the "lightning Union," little more can be done than has already been done in the way of spreading "our President's" speech or message before millions of his countrymen. Only think of the nearly nineteen thousand words of President Polk's message of 1847, transmitted by telegraph to the West—startling as with a thunder-clap, the valleys of the Lakes and the Mississippi; and think further of the fact that President Taylor's first and only regular message was actually being received by Telegraph in *Iowa*—repeated from *Missouri*—some four or five hours before an *express train*, propelled by all the power of Governmental money and steam, conveyed even to the city of

New York some of the Washington *printed* copies of that memorable document—memorable not more for its contents, than for the circumstances connected with its author and its delivery.

We will, in another number, report what feats may be accomplished by any and all lines in Telegraphing the next Presidential message, about which we suppose there will be some rivalry among the lines; and meantime, we occupy a brief space advantageously, in showing, by a paragraph from the New York "Daily Times," how almost instantaneously, after the close of the polls on the day of the Presidential election, the fate of that election was generally known through the United States—to the utter overthrow of one mighty party, and to the unparalleled success of another party and its candidates:

Rapid Returns of the Presidential Election.

(From the New York Times.)

There is nothing more notable about the recent election than the rapidity with which the result has been ascertained. The thoroughness of the victory deserves some of the credit, and the wide extension and judicious management of the telegraph, more. Enough was known in this city at 8½ o'clock on Tuesday evening, to indicate the whole drift of the day's work. Betters squared their accounts. Jubilees and dirges were tuned up; and the city swept with hosannas to PIERCE and KING so vehement, wild, and universal, as to justify the notion that the home majority was even greater than the melancholy fact. Grave citizens were enabled to keep their usual timely hours, informed of enough to color their dreams joyously or sadly, according to the character of their spent ballot. The streets were early quiet. The satisfaction of dram-drinking Democrats needed not the customary spur of the cup; and for the Whigs, they crept meekly home, spurning the paltry consolation of word or bottle. The storm of the day which had deluged and drowned a great party, subsided into the very peacefulest of moon-light nights.

Looking back eight years—for in 1848, the telegraph had reached but a small length of its present endlessness—we may recall the long and weary suspense of the public mind, awaiting the returns. Cayuga Bridge enjoyed for a whole week the fame of the Hellespontic bridge of boats, the bridge of Sighs, or that of Lodi, among people who never heard of it before. Mails at the great cities were waited for by assemblages of men numbering tens of thousands. We have changed all that. *The lightning has flashed from all quarters at once*, and the Whig party is annihilated. No respite, not a day's delay, was granted. The general curiosity was not piqued and aggravated by slow and dubious returns. There were no intermittent paroxysms of elation and depression. The guillotine fell; and the Whigs were nowhere. Such is the *completeness of the telegraphic communication*; and such, oh, melancholy truth! is the completeness of the route.

Important Decision Concerning Secresy of Telegraph Dispatches.

The result of the case where a telegrapher, Mr. David Brooks, at Philadelphia, refused to testify as a witness concerning the contents of a telegraphic dispatch, or "telegram," about which some controversy arose between the sender and receiver of the message, is stated to have been to the effect that "the telegrapher was bound in a legal proceeding to disclose the contents, as it was not among the class of cases which have the privilege of secresy. Judges King and Parsons concurred in this decision, and will give written opinions." Judge Campbell dissented, and will also write down his reasons. We will endeavor to publish these opinions on an important subject, as interesting alike to the public and to telegraphers.

Means of Telegraphic Improvement—Opinion of a Telegraph President.

From among the various congratulatory letters with which our Magazine has already been honored by men of all stations and interests connected with the principal companies in the Telegraph system throughout the United States, we may be excused for selecting occasional extracts, indicating particular points whereon the respective writers consider it important that information should be more generally diffused.

The president of one of the largest companies in America, under date of October 13th, thus expresses his views:—

Donald Mann, Esq., Editor Telegraph Magazine:

DEAR SIR:—I have this moment received the first No. of the "Telegraph Magazine," and drop every thing else to express my high approbation of the undertaking, and my confidence in you as its conductor.

I have long felt the want of a magazine devoted to the advancement of the Telegraph science. If properly conducted, as I have no doubt yours will be, it will be of incalculable service to the *profession* and the *public*.

How many are there who consider themselves excellent telegraphers, who know nothing of the scientific principles upon which their battery is organized, or the electric current generated,—who know nothing of the office which the zinc, the water, the sulphuric and nitric acids, the diaphram, or the platinum, perform in that important process; and, indeed, I may say how little do *any of* *us* know of all this, notwithstanding all that has been written on the subject, and all the various experiments we may have tried! The same remarks will apply to the different parts of the magnets, and other telegraphic apparatus.

It will be the office of your journal, I have no doubt, to disseminate such scientific information to those who might otherwise ever remain ignorant on the subject; and it will form a channel through which practical telegraphers may converse together on the subject, and give each other the result of their experiments and observations.

In connection with this subject, allow me to suggest the importance of a *Telegraphic Map of the United States, or North America*, on which every line of telegraph shall be delineated, and every station marked. The want of such a map must have been felt by all; and every office in the United States should be supplied with such a map. I hope soon to order a copy of the "Telegraph Magazine" for each station upon our lines. Very truly yours, J. D. C.

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National Telegraph Convention—An Important Movement.

We congratulate the public generally, and the Telegraphic World in particular, on the important fact, that sufficient unity of purpose has at last been manifested to accomplish the CALL OF A NATIONAL CONVENTION, with the view of reforming the defects and increasing the efficiency of Telegraphic Lines throughout the United States.

The notice or invitation, to be sure, is addressed to all Companies "working under the *Morse* System of Telegraphing"—and may, in this respect, seem rather exclusive. But, when it is considered that the Morse system is used on probably nine-tenths of all the lines in America (in the British Provinces as well as in the United States), the invitation will appear broader than it might at first seem to a superficial observer.

Lines working under *other* systems, such as the House Lines, can judge how far a similar conventional effort for improvement is necessary for ensuring their own welfare and the public satisfaction. And it will gratify us to learn that this latter class of lines are moving in some way to promote improvement in some or all of the points briefly indicated in (and many more might be added to those embraced in) the following brief notice or invitation:—

All lines, no matter under what different systems they work, should at least harmonize in the objects set forth—as business is constantly passing to and from or between and over lines established under different patents—as there are large sections of the Union in which only *one* system of Telegraphing exists, and dispatches for those regions, originating on lines elsewhere worked by different apparatus, *must* therefore pass over lines built under more than *one* system or patent.

NOTICE.

MORSE'S AMERICAN TELEGRAPH.—TO ALL LINES IN AMERICA.—For the purpose of consummating a unity of action in such affairs of the Telegraph system as may be deemed material to the common interest, the undersigned propose a meeting of the representatives of all the Telegraph Lines in America working the Morse System of Telegraph, at WASHINGTON CITY, March 5th, 1853.

It is useless to enlarge upon the necessities requiring a general meeting of the kind designated above, and unnecessary to add what can or would be submitted for consideration in the premises, except, that we have in view a joint action through this Convention on such matters as may be of interest to the lines in common, without regard to the special interest of any given line or connection.

The signals and abbreviations of lines differ,—the counting of words frequently disagree—the style and manner of operating and doing business generally are as diversified as there are powers to create, and there are doubtless many points that can be acted upon by a Convention, which would redound to the weal of all lines, without any disturbance of their pecuniary affiliation or respective interests.

The undersigned are the representatives of but a portion of the lines in America, and it is desirable to have a representation from as many of the lines as possible. Such as desire to unite in the Convention aforesaid are requested by their Presidents or Superintendents to notify either of the undersigned, by letter, of their willingness to co-operate in the same.

AMOS KENDALL,
Pres't. Western Telegraph Company.
WM. M. SWAIN,
Pres't. The Magnetic Telegraph Co.
F. O. J. SMITH,
Pres't. Boston and Portland Tel. Co.
T. S. FAXTON,
Pres't. N. Y., A. and Buffalo Tel. Co.
ELAM ALEXANDER,
Pres't. W. and N. O. Tel. Co.
H. M. SCHIEFFELIN,
Pres't N. Y. & N. E. U. Telegraph Co.
HENRY O'RIELLY.
WILLIAM TANNER.
Pres't. N. O and Ohio Telegraph Co.
TAL. P. SHAFFNER,
Pres't. St. Louis and N. O. Tel. Co.
ISAAC M. VEITCH,
Pres't. St. Louis and Mo. R. Tel. Co.
J. H. WADE,
Pres't. Cleve., Cin. and St. L. Tel. Co.
A. C. GOELL.
President of the Philadelphia and Wilkesbarre Telegraph Company, and also the Susquehanna River and N. and W. Branch Telegraph Company.

Philadelphia, September, 1852.

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Statement of Professor Morse, concerning the Origin of his Telegraph.

Having briefly traced the outlines of the Progress of Electric Discovery with reference to Telegraphic Invention—as may be seen in another part of this Magazine—we will, in our next, publish the statement made by Prof. Morse, in the great law case between French and others, and Rogers and others; which suit involved the issues between the Morse and Bain Systems, as used on the (then antagonist, but now united) lines between New York and Washington. We prefer to publish these matters substantially as shown in Court, under the requirements and solemnities of Judicial investigation—holding our columns open to such comment as the nature and importance of the case may require from others as well as from ourselves.

Reports of Telegraph Companies—Suppressed Statements.

It is stated that some of the Telegraph Companies have, this year, refused to publish their annual reports—or, rather, we should say, the officers or managers of such lines have thus refused; for it cannot be supposed that the great mass of *stockholders* in any company could sanction any suppression of the kind.

The matter looks badly, no matter what pretext may be assigned for it.

Banks, insurance companies, and other institutions of the kind, where honestly managed, prefer, rather than shun, a scrutiny of their management and financial operations and condition.

Where the officers of any Telegraph Company, or other company, deviate from the customary practice, by not allowing their stockholders and the public generally, to see a full report of their proceedings and condition, it will probably be found difficult to resist the suspicion, if not conviction, that there is some "nice speculation" on foot, which "it would not do to let out!"

Telegraphs in Europe and America—Especially in connection with Railroads.

LE VERRIER, renowned in Astronomy, is devoting considerable attention to the extension and improvement of the telegraph system. One of the principal reports made by him upon the subject, is now before us, in an English dress, and in pamphlet form; and will furnish materials for comment in future numbers of our Magazine, in connection with the modes of constructing and working Telegraphs in various countries of Europe, as well as in America. This report refers to various facts important to all who are interested, either scientifically or practically, in the application of Electricity for Telegraphic purposes.

One of the objects most emphatically dwelt upon by Le Verrier, in his Report to the French Government, is the *inseparable connection* which should exist *between telegraphs and railroads*, with special reference to the interests of the railroad, in facilitating the management of business and promoting the *safety of passengers*.

This branch of the subject is repeatedly mentioned, and in the strongest terms. "The Electric Telegraph," says Le Verrier, "being, in the opinion of the Committee, the indispensable complement of every railway, they thought the two ought to be co-extensive."

Again, he says (pages 21–22), "The employment of the Electric Telegraph having been conceded to the railway companies, which is *indispensable* to their management, we must examine if the administration has made those reserves which are necessary to prevent those concessions (of the Telegraph) in the hands of the railway companies, from becoming abusive monopolies," &c., &c.

One more extract is all we have space for at present; and we respectfully and earnestly invite to this extract the attention of all persons concerned in American Railroads—and who are *not* thus concerned, either as *passengers* or stockholders? "In England, Germany, and France," continues Le Verrier in his report, "the concentration of the population renders frequent stations necessary on the railways; and the ☞ great number of the trains *might* lead to many accidents, *if the Telegraph* did not supply the means of giving instantaneously the orders necessary for keeping the way clear, especially when some sudden change has been made in the arrangements. ☞ In America, *on the contrary*, the number of trains in a day is very small, and ☞ a collision is next to impossible: ☜ for this reason, their managers have scarcely any occasion for the electric telegraph" (!!!)

The gravity of Le Verrier's character forbids the supposition that he meant to be satirical in these remarks upon the supposed *exemption* from accidents upon American railroads. At any rate, his remarks (which it is proper to say, were made in 1850) find a mournful contrast in the "shocking catastrophes" now frequently proving destructive to limbs and lives along our American railways.

As the American railroad trains are not *now* so "few and far between," and are not exactly such "slow coaches" as they appeared to be when Le Verrier wrote in 1850, it is left to the public generally and to legislatures particularly, to determine how far any railroad company is justifiable in *neglecting the use of the telegraph*, which is deemed an "indispensable complement (or appendage) of every well-managed railroad" in France and other European countries. It is gratifying to know that various railroad companies are now at last arousing to a sense of the importance of the subject.

Professor Henry on the History of Electric Discovery.

It affords us satisfaction to be able to lay before our readers, as we intend to do in the December number of the Telegraph Magazine, the brief but comprehensive review of the progress of Electric Discovery, elicited from Professor Joseph Henry, under the requirements of the United States' courts, in certain important lawsuits, involving questions of originality in telegraphic applications of those discoveries—the most important of which discoveries, forming the foundation on which rest the Morse and all other electro-magnetic telegraphs, were made by himself.

While Professor Henry freely concedes, as in his letter of 1845, that the Morse plan of applying these discoveries was better than any other with which he was then acquainted, it is due, on the other hand, that deserved honors shall be rendered to Henry himself, by his own countrymen, as such honors were frankly awarded to him by men eminent in science throughout foreign lands.

It is no disparagement to Professor Morse or any other man—it does not necessarily militate against the claims of Morse's ingenuity and originality in *applying* certain valuable discoveries—to render justice to Joseph Henry, the distinguished Secretary of the Smithsonian Institution, as the main pillar in the Temple of Electro-Magnetic Discovery.

We bespeak for the statements of Professor Henry, and also for those of Professor Morse, which will appear in the next number of this magazine, all the attention to which they are entitled, from the character and position of the respective deponents, as well as from the magnitude and magnificence of the subjects under investigation.

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Submarine Telegraphing.

In view of the successful submersion of Telegraph wires in various parts of Europe, and in view also of the extent to which our friends of the Newfoundland Electric-Telegraph Company propose to employ submarine conductors at the Gulf of St. Lawrence (about 130 miles in one stretch)—saying nothing particular about the contemplated Telegraph under the Atlantic Ocean between Europe and America—we are occasionally asked about the localities where, and the persons from whom, can be obtained such conductors as will best serve the purpose of crossing under rivers or bays or lakes, in various sections of the Union. We have seen various statements on these subjects floating in the newspapers, and when any of the persons engaged in the business furnish us with specimens of their wares—we will endeavor to examine and express our opinion of their comparative merits.

Telegraphs in France.

Louis Philippe, enlightened as he was in most matters, was behind the age in matters connected with the *Electric*-Telegraph—although no monarch probably profited more than he did by the use of the old-fashioned visual or semaphoric telegraphs, which attained their greatest perfection in France.

Louis Napoleon, during the years of his sway, is not known to have evinced any very particular friendship towards *Electric*-Telegraphs till lately—and now, on the eve of his assumption of imperial insignia, he has suddenly ordered the construction of not less than thirty lines of telegraph, to put Paris in communication with the chief towns in all the departments. It is said they are all to be completed during next year. He has ordered the wires to connect directly with his palace, as well as with the regular Telegraph office in Paris.

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Telegraph Rates in Germany.

The correspondent of the *National Intelligencer* (Robert Walsh, we believe, at Paris), gives the price of a communication of twenty words, by the German lines, from Strasbourg, on the French frontier, to several principal cities:

From Strasbourg to Carlsruhe, 47 cents; to Stuttgard, 93½ cents; to Munich, $1 87; to Trent and Venice, $2 34; to Vienna and Trieste, $1 30½. From Paris to Strasbourg, by the French line, the cost of a similar communication is $1 70½.

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Books about Telegraphs—Justice to all concerned.

We meant to have devoted some space this month to an examination of two books on Telegraphic History, viz: that of Alfred Vail, Esq., published in 1845, and that of Alexander S. Jones, Esq., which appeared this year. Aside from the pressure of other matters on our columns, we have other reasons for delay, which may be fully mentioned hereafter.

We will only say now, that we have communications from different sources respecting certain alleged defects in each of those books, accompanied by promises of further criticism.

One writer, wholly disconnected from all the parties concerned, points to one great defect in Vail's book—a defect which, considering especially that Mr. Vail is a partner of Professor Morse, appears in a peculiarly unfortunate light—namely, the total omission to narrate in proper manner the extraordinary electric discoveries of our countryman, Professor Henry, on which the Morse system is essentially founded, though we will not readily believe that this inexcusable omission could have been sanctioned by Professor Morse.

And another writer—one of the most distinguished in American Telegraphic history—refers to Dr. Jones' work in pointed terms for its alleged errors in reference to Professor Morse, with a promise to furnish, for this Magazine, "if we will insert his statements" (as we shall do, if they are temperately and fairly written), an article for the purpose of correcting the alleged "misapprehensions on some historical points embodied especially in Jones's book," and also "to assist us in settling some disputed claims in regard to priority of invention in Telegraphic systems."

The reader is already aware that our pages are open for free inquiry and frank discussion on these and other topics relevant to the "great enterprise" of which we are aiming to become faithful though humble chroniclers.

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Theory versus Practice in Telegraphing.

A single fact is often worth a volume of theories. Experience in Telegraphing demonstrates this in several instances. We refer now only to a single case. Professor Steinheil and Professor Page, eminent as both are in scientific matters, are both shown to be in error when supposing the impracticability of conducting Telegraph Lines successfully under ground, as well as under water. In some countries of Europe—as in Prussia, for instance—the lightning lines are chiefly laid under ground. Le Verrier informs us, in his report to the French Government, that there were, in 1850, upwards of 1300 miles of underground Electric Telegraph then in Prussia, and the quantity of that description has been probably considerably increased; and in England, and elsewhere in Europe, that mode is followed to some extent. The brilliant success which has followed the submerged or under-water telegraphic conductors between France and England and Ireland, bears also strongly on the practicability of this important point.

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Sins of Omission and Commission Chargeable on the "Telegraph."

We know not how we can better serve the real interests of the Telegraph System, than by freely reprehending any and all errors and abuses which may fall within our knowledge. Such a course will doubtless occasionally expose us to assault and misconstruction; but our discharge of duty will be cheered by the reflection that those only will cavil at the censure who most deserve the lash. "The Telegraph," often vaguely and wrongly assailed, is more or less vulnerable in this respect.

One of the various evils which cry loudly for immediate reformation—the one to which we now specially invoke the attention of every *Director*, as well as of every President, Superintendent, Receiver and Telegrapher—is, the frequent failure on most lines to transmit the *exact dates* written down on the dispatches by the persons leaving them for transmission. Every man and woman, with intelligence enough to use the Telegraph, will readily see how essentially the character and value of a "telegram" may be injured or destroyed, not merely by the omission of the correct date, but by the insertion of another and erroneous date—the date when it was received *here*, instead of the day and hour when it was actually received at New Orleans, Galena, St. Louis, or other place for transmission—the change being obviously made to conceal the time frequently lost by accidents and storms along the lines, and by negligence of messengers in delivering telegrams even when they have reached the city of their destination.

It can be only necessary to draw attention publicly and strongly to this source of error and complaint, to have the evil promptly corrected. We call upon every *Director*, as well as upon every other officer employed about the Telegraph Lines, to see and be sure that the correction of this great abuse is promptly made and perseveringly remembered. In order to effect this reform, *all* companies should move in unison; and if there are any "wild-cat" concerns which will not faithfully send dispatches with the "*full date*," as well as the full "signature and address," it is due to all honorable Telegraph Companies that the faithless telegrapher shall be compelled to atone for the wrongs which are thus inflicted alike upon the public who use the Telegraph and upon the many worthy telegraphers who are always ready to correct errors and discharge accurately the important confidential duties they undertook when embarking in the "Lightning Lines."

Thus much for the first installment of our remarks on this subject. As our magazine already reaches every Line in the Union and the British Provinces, we anticipate prompt attention to these remarks—remarks well meant towards our telegraphic friends, as well as towards the public. We also warn those who may prove remiss, that the matter will not be allowed to sleep, and that any company which longer neglects this essential duty, will be compelled to suffer in damage of its character as well as of its treasury—as law and public opinion will speedily enforce what we now earnestly recommend.

The several correspondents who addressed us on these subjects, will see that, though we have not space *now* to publish their communications, we vividly appreciate their complaints and suggestions. The whole matter will of course undergo searching scrutiny at the National Telegraph Convention, next March; but we hope the errors will be rectified before that time.

Tariff of Rates on Various Lines.

It is unnecessary for us to say a word to show the importance, to every line in the United States and British Provinces, of having its tariff of prices published in the Telegraph Magazine—circulating, as it soon will, to every telegraph office, and reaching, as it already does, every line and company in the country. We intend that the magazine shall record every thing worthy of notice in the business to the improvement of which it is devoted—that it shall be a place of reference, for either the telegrapher or business man, on any question connected with telegraphing.

We will publish the tariff of prices of any line, at half the charge of any other advertising. On another page will be found the tables of rates of several companies. Others will appear in our next, or as fast as ordered.

In this connection, we may be excused for quoting a remark from a letter received by us from James D. Reid Esq., extensively known as superintendent of several lines. "If you could introduce tables of rates in the Telegraph Magazine," says Mr. Reid, "that is, *each line by itself*, you would secure a large subscription and supply a great want."

Outrages on the Telegraph—Hoaxing, Wire-Cutting, &c.

It seems, by accounts from South Carolina, that it was difficult to restrain the indignant citizens lately, from "Lynching" a miscreant who was detected in cutting the Telegraph wires, in a certain locality of that patriotic State.

We do not wonder at the spirit manifested. The perpetrator of such deeds would have no scruples in picking pockets and cutting throats. The welfare of the whole community is identified with that of the Telegraph; and the wretch who could be guilty of "cutting the wires," may well be supposed capable of perpetrating "treasons, stratagems," and all other sorts of rascality.

It was, for a considerable time, a common practice with some villains, supposed to have been employed by speculators, to "cut or disorder the wires," quick as steamers reached Halifax from Europe—for which offenses they were never brought to public punishment: And, as it is scarcely probable that such villains have abandoned the objects which formerly influenced them, it is to be feared that they now accomplish, or endeavor to accomplish their purposes, by some other sinister and private scheme—about which it behoves all Telegraph companies and the public, to be on their guard. Close watching may ere long detect some further traces of these 'out-door operators' and their agent or agents.

Among the unwarrantable uses sometimes made of the Telegraph, and for which the Telegraph itself is often wrongly blamed, we quote the following as a specimen, with the remark that the brute who could perpetrate such complicated outrage on the feelings of family circles, and on the confidential character of the Telegraph, should be made to feel the force of public scorn, as well as the penalties of outraged law:—

(From the Rochester American.)

☞ The *Mt. Morris Union* relates the following particulars of a singular "hoax by telegraph":—

"Our citizens were startled on Saturday morning last, by a telegraphic report sent here from Rochester, stating that a recent resident of this place was lying dead at one of the hotels in that city, having died of the cholera—signed by one of the clerks of the hotel, who also is well known here, and considered incapable of so gross an imposition. The friends of the supposed defunct, telegraphed immediately to the proprietor of the hotel, saying they would be after the corpse, and requesting that it should not be buried there, &c., and asking for further particulars. But after waiting several hours in vain for information, they started for Rochester, with a hearse in attendance to perform the sad duty of conveying the remains of the departed to their final resting place in this village. But when they reached Rochester, they found they had been the victims of a cruel hoax. The supposed dead man was "alive and kicking," and had not even been sick—the landlord and clerk both protested their ignorance of the whole affair.

"Who it was that played off this game, is not yet ascertained; but whoever it was must be devoid of the common instincts of humanity, and would raffle for a shilling over the coffin of his father."

House Telegraph Line—South of New York.

One of the "events" of the last month is the completion of the extension of the House Telegraph Line as far south as Washington. The organization of any line of telegraphic communication of equal extent, is deserving of record; though it may be observed that some monthly chroniclers, who affect to give faithful memoranda of the principal current events, totally overlook all telegraphic matters. Though we may not concur with some of our friends concerning the supposed advantages of printing Roman letters instead of the Morse Telegraphic letters (both being equally readable to people familiar with the respective alphabets), we desire that each and every line and system shall have all proper consideration in these pages. It will afford us pleasure to give further particulars about this new line between New York and Washington, whenever its officers furnish us with the requisite information. Meantime, it is but justice to the old "Magnetic Telegraph (or Morse) Company," to say that the new line will have to place itself in the first rank of American Telegraph Companies in order to obtain an equal claim upon public confidence.

We invite from the officers of the new company, as from the managers of all companies, such information as may enable us to publish all useful facts concerning their organizaon, &c.

Telegraph Patent Cases—Criticism upon Judge Kane's Opinion.

The correspondent who sent us a pamphlet copy of a criticism upon Judge Kane's Opinion and Decision in the memorable case between French and others and Rogers and others, involving the respective claims of the Morse and Bain Patents, will see the impracticability of our copying such pamphlets entire within our restricted limits.

But though we cannot "go the full length" in complying with the wishes of that correspondent, we will endeavor to re-publish some of the leading points laid down by Judge Kane, accompanied by some extracts from the criticism thereon, in our next number—that such of our readers as are not already familiar with the matter, may at least understand the chief points in dispute, and ascertain the reasons assigned by the parties in support of their respective positions. (Judge Kane, it will be remembered, gave an opinion of the most decisive character in favor of Morse's claims and patents generally.)

New Telegraphic Lines in Canada.

Various new lines are in progress of construction in Canada—particulars of which will be given when we learn more about them. Mr. Josiah Snow, whom some persons will recollect for his connection with the Southern Michigan and other lines in that region, appears to be concerned in these Canadian operations.

By way of inducing people to subscribe for stock in the new lines of Mr. Snow, it is stated in some of the papers, that existing lines in Canada have paid fifty-seven per cent dividend in the aggregate of the last three years. Any person who can furnish a statement of the actual condition of those Canadian companies, may confer a favor on their telegraphic friends by furnishing us particulars for publication.

Movements of Telegraphers—Appointments, Resignations, &c.

We notice that Mr. Otis E. Wood has recently been appointed Supt. of the New York, Albany, and Buffalo Telegraph. Mr. Wood engaged in the telegraph business when only about sixteen years of age, and notwithstanding his youth, and the competition of persons of age and ability, he speedily attained the most responsible positions, on the line upon which he was employed. For the office that he now holds, all, who know him, will agree, that few could discharge its duties more satisfactorily to the company that employs him, or to the public who transact business over that line. Mr. W. has not been engaged in telegraphing for some time; and we take much pleasure in chronicling his return to a business which he honors and which honors him.

Telegraph Legislation Defective and Inoperative, for Certain Reasons.

It was a saying, not of any "Roman Consul," but of an old-fashioned lawyer, that it would be difficult to frame laws on certain subjects without leaving gaps and flaws through which a sharp practitioner might not "drive a coach and four."

Telegraphing seems to be one of the topics for which the wisdom of legislation has failed to provide some of the safeguards necessary for the welfare of all concerned. Owing to the newness of the business, and to the want of proper investigation on the part of lawmakers, there is scarcely one of the several laws passed in various States which has not proved almost a dead-letter—and worse, inasmuch much as people rest in false security, trusting to the protection of laws which, owing to the nature of the case, could not well be enforced. For instance: in several States, it is substantially made "the duty of all Companies or Lines employed in transmitting messages by Telegraph, to transmit them in the order in which they are received; and any company or person who shall fail so to transmit messages" "shall be deemed guilty of a misdemeanor, and be punished by a fine not exceeding one thousand dollars," or other penalties of imprisonment, &c.

☞ Now, we venture the assertion that, owing to the peculiarities of the Telegraph System, and owing also to the vagueness of the laws above-mentioned, it would be practically impossible to enforce these provisions, as all familiar with the mode of transacting business along the lines will readily understand.

Such laws should either be repealed or amended; as they wrong the whole community by begetting a false sense of security on the part of the public.

The Telegraph Laws of all the States where such laws have been passed, should be revised forthwith; and the testimony of practical telegraphers should be carefully consulted in framing the amendments. This reform in legislation will doubtless receive consideration at the National Telegraph Convention at Washington, next March.

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Change in Telegraph Alphabets, and Adoption of the Union Alphabet.

We have elsewhere alluded to the proposed change in telegraphic alphabets on the New York and New England Union Telegraph Lines—the "union" consisting, as many readers already know, of the lines heretofore using the Morse and Bain Patents, between New York and Boston—both being now united under the Morse Patents.

The change is actually decided on; and we are indebted to the courtesy of Henry M. Schieffelin, Esq., the President of the Union Company, for a copy of his report, setting forth the reasons for that change. It is gratifying to see attention bestowed on such matters by men situate like Mr. Schieffelin, who can devote time and influence in promoting the welfare of the Telegraph system. It will be seen, from the annexed report, that portions of both alphabets have been adopted in making up what we may, for shortness, hereafter call the "Union Alphabet."

REPORT ON ALPHABET.

In considering the alphabet to be adopted by both lines now united in one, it was ascertained that both the alphabets now in use have their peculiar objections, the spaced letters in the Morse Alphabet leading to errors in reading, and generally objected to by the operators for that reason; the Bain numerals unnecessarily long; and in both, many of the letters more frequently used represented by long characters, whilst others seldom used are represented by shorter characters. Facility both of writing and reading required that those most frequently occurring should be shortest. In valuing the letters according to the frequency of their use, we have counted them—typefounders' arrangements here and in Boston have been consulted; and reports have been received from the Treasurer, and three of the principal operators, Messrs. Prescott, Barry and Swan, and the various classifications have been compared, and values averaged. The combinations of dots and lines have been arranged according to their shortness, estimating three dots as shorter than one line, according to the opinions of the two principal operators here, and precedence has been given to characters containing the same number of dots and lines, when by so doing they could be made to correspond with letters now in use in either alphabet. The Bain numerals have been much shortened by changing surplus lines into dots, still preserving their admirable significancy.

The following is the result, to go into use after sufficient time for the operators to perfect themselves therein:—

A . . .
B . . —— ——
C . . —— .
D . . ——
E .
F —— ——
G —— —— .
H . . . ——
.. I ————
J . —— . ——
K . —— —— .
L . —— .
M . —— . .
N —— .
O . . . . ———
P —— . ——
Q —— . —— .
R . ————————
S —— . .
T ——

U —— . . .
V —— . . ——
W . —— ——
X —— —— ——
Y —— —— . .
Z . —— —— ——
& —— —— —— .

NUMERALS.

1 . —— . . .
2 . . —— . .
3 . . . —— .
4 . . . . ——
5 . . . . .
6 —— . . —— .
7 —— . —— . .
8 —— —— . . .
9 —— . . . .
0 —— . . . ——

PUNCTUATION.

Comma, . .	. . . —— ——
Semicolon, . . .	. . —— —— .
Colon, . . .	. —— —— . .
Period, . . .	. —— . —— .
Interrogation, . .	. . —— . . ——
Exclamation, . .	—— . . —— . .
Parenthesis, . .	. —— . . ——
Italics, . . .	. . —— . ——
New Paragraph, .	. . —— —— . .

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New York and Erie Railroad Telegraph.

(For the Am. Tel. Magazine.)

It will be seen by the following notice, that owing to the press of business upon this line, the Company has been compelled to decline business from persons not connected with the Railroad—the business of the Company alone keeping the line in constant employment. It is difficult to estimate the amount saved to this Company by the use of the important agent, *Electricity*, in the transaction of its business; but *the cost of working the road* is known to have been *very materially reduced thereby.* When we add to this the exemption from accident which a well-managed line of Telegraph affords, it is difficult to conceive how any Railroad Company can be so blind to its own interests as to delay the construction of wires along its route for a single day. The day is not far distant when the public will demand that this necessary improvement be everywhere made. The New York and Erie Railroad Telegraph is now in charge of Mr. L. G. Tillotson, an energetic and efficient telegrapher, who thoroughly understands his business. There are already 49 stations on the line, and others are to be opened. The services of over 70 telegraphers are already required to work it.

New York and Erie Railroad—Order in Relation to Telegraph.

New York, Oct. 26, 1852.

Hereafter, no messages must be received by any operator for transmission over the Telegraph of this Railroad, unless they are to or from an employee of the Company and upon the business of the Company; excepting, that in case of the sickness or death of any person, or in case search is desired to be made for missing Baggage or Freight, *paid* messages will be received from those wishing it. It must be clearly understood that messages included in this exception are entirely as a matter of accommodation, that those pertaining to the Company's business must have precedence over them, and that the Company will not be responsible for their delivery.

CHAS. MINOT, *Sup't.*

L. G. TILLOTSON, *Telegraph Sup't.*

☞ To prevent misapprehension, we may inform the reader that the above-mentioned Railroad Telegraph, owned or managed by the Railroad Company, is entirely distinct from the "New York and Erie Telegraph," running along nearly the same route—which latter line is managed by Ezra Cornell, Esq., as heretofore.

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Perils and Blunders of the Telegraph.

The negligence of many receivers and telegraphers in seeing, or rather failing to see, that the words of each "telegram" received over the lines, correspond with the number of words marked as embraced in the dispatch when originally received from the author, often leads to serious errors—errors not the less serious for the character of the telegraph, even though they seem "ludicrous" or "amusing" to the outside world.

The Springfield (Mass.) *Republican* furnishes an instance of the misapprehensions occasioned by culpable remissness in this way, whereby the Telegraph "killed off" the wrong man. Had the words been properly counted, so as to see that the telegram received in New York corresponded exactly with the dispatch left for transmission at Springfield, the error would have been detected at once—as "my son," counting *two* words, would not then be gravely killed off instead of "Myron." We publish this matter to enforce greater care in a matter whereon error is wholly inexcusable:—

(From the Springfield Republican.)

☞ An amusing instance of the perils of telegraphing occurred yesterday, when the announcement appeared in the New York papers that Lawrence Bowles died in Belchertown on Sunday, and, moreover, that he was the son of the senior editor of the *Republican.* We have puzzled our ingenuity considerably to ascertain how this awful blunder was perpetrated, and conclude it must have been done in this way: The dispatch was sent from this office, and announced the death of Myron Lawrence, of Belchertown. The operators or copyists read the dispatch, "My son (instead of Myron) Lawrence, of Belchertown," &c., and then, referring to the signature, joined the two names, and made the author of the dispatch a patriarch.

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Municipal Telegraph for Police Purposes, Fire Alarms, Etc.

One of the most interesting applications of the Electric Telegraph, is now witnessed in Boston, in connection with the Municipal Government. By this arrangement, the Police and Fire Departments, can instantly spread alarms and issue orders for the arrest of felons or fires, in any portion of that wide-awake city. This beautiful application of electricity, was described by Dr. William F. Channing, in 1846; and was finally brought by him before the city government of Boston, in 1851. Mr. G. Farmer, the constructor, had, in the meantime (in 1848), devised a portion of the apparatus now used, and his original and combining power have contributed largely to make the system what it is, in its present successful operation. We know that Dr. Channing himself concurs with us in ascribing to Mr. Farmer, the share of credit hereby assigned to him in connection with the practical application of this beautiful invention.

As the Corporations of New York, New Orleans, and other cities are now considering the propriety of introducing this Municipal Telegraph within their respective borders, and as every large city should promptly follow the example of Boston in this matter, we readily devote a portion of this Magazine to an illustration of the operations and benefits of the system.

In answer to our inquiries, a scientific friend in Boston writes us as follows:

"Let me say that the Electric Fire Alarm (as it is sometimes styled), is *more* than a Telegraph. It is an application for the development of *power* at a distance, by means of electricity. An alarm is signalized from the locality of a fire to the central station of the system, by ordinary telegraphic means, in the first instance. Then, by a single touch of the finger of the operator at the central station, powerful tolling machinery is thrown instantly into action in 18 turrets, in different parts of the city—the hammers striking simultaneously in each the 'district number' of the fire. The largest hammers used, weigh 48 lbs., and strike on bells of nearly two tuns weight—though most are smaller. These hammers are wielded by striking machinery, carried by weights; and the function of the electric circuit is merely to *set off* the machinery at the right instant. Two or three more bells will probably be added soon, and hammers of 75 lbs. will probably be applied, carried by a Cochituate water-meter, and set off by telegraph as in the former case.

"The use of the electric current to set off and control the action of machinery at a distance, is an application which promises results of great importance in connection with mechanics.

"There are two sets of wires in Boston, connecting the central station with the extremities.

"These two sets have precisely the functions of the two sets of nerves in the animal system. One set corresponds to the nerves of sensation—it brings intelligence of a fire or a lesion from some distant point to the center or brain. The other set, after an act of intelligence and volition, in correspondence with the motor nerves, immediately call electro-magnetic muscles into action, by which a corresponding signal is struck with iron arms upon the various bells.

"If the human body is exposed to a burn, precisely the same action takes place. The sensitive nerve notifies the brain, and the brain, through the motor nerves, throws the proper muscles into action to repel the danger.

"This analogy of human and social organization, is not without its value in criticizing the system.

"The 'signal boxes,' numbering 45, and scattered over the city, from which the first signal is given in case of fire, require only that a crank should be turned to notify the central station of the number of the district and box from which the alarm proceeds.

"The system has now been in constant operation for several months, and its safeguards have proved abundant against interruption, irregularity, or abuse of any kind. It is interesting at night to hear the bells all over the city begin at the same instant to strike the district numbers, and stop suddenly at the same instant.

"A few large bells, especially devoted to the purposes of fire alarm, as in New York, would allow the most simple and effective application of the municipal telegraphic system. Hammers of any required weight could be wielded in New York by means of the Croton, avoiding the trouble of winding up weights; and one or all of the bells could be struck from the City Hall by the simple touch of a key, in obedience to signals received from the neighborhood of a fire. This would be more simple and easy, and more elegant, than the application in Boston, where a large number of bells are employed, which have also, for the most part, other uses."

Another communication to us from Boston says—

"I would take special satisfaction in showing you the *intelligent* working of the 'nervous system' of this Municipality. The system (established by Dr. Channing and Mr. Farmer), has been tried under the greatest disadvantages in Boston. We strike eighteen fire bells, scattered all over the city, by a touch of the finger at the central office. These bells are also used for other purposes. The system in New York and other cities, where there are a few large bells devoted to the purposes of fire alarm, would be much simpler and more beautiful. I trust to see it so applied. For all new sections, also, I hope that the power employed will be that of the water confined in the city pipes, 'let off' by Telegraph. This would avoid the necessity of winding up, and admit of an indefinite amount of force applied to the bells."

In reference to the plan proposed at New Orleans, by Mr. Titcomb, we may add that it is a partial application of the Boston system, and is undertaken by Mr. T. under the concurrence and assent of Mr. Farmer, the patentee of that system.

For large cities, if we understand Dr. Channing and Mr. Farmer rightly, the plan of ringing the bells from a large number of signal boxes is not considered either safe or practicable, without great expense of apparatus and police attendance. For New York or Philadelphia *two* central stations *might* be advisable.

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Prospects of a Russian Telegraph Line across Asia to North-Western America.

It would argue a misappreciation of history to suppose that Russia regards with indifference the progress of events on the shores of the Pacific, whether insular or continental. No power in existence—not even Great Britain—has more steadily kept its purpose fixed for extending its power wherever practicable, without any very nice discrimination about the means employed in "annexing" the desired countries.

We ventured the prediction that the Russian Emperor can and will probably extend the lightning lines through his dominions, from St. Petersburg to the Russian-American coast—crossing at Behring's Straits—before any of the projected suboceanic lines can be extended between Europe and America.

There will, doubtless, soon be manifested sundry Russian operations of energetic character, through some of their possessions on the American as well as Asiatic shores of the Pacific—a "premonitory symptom" of which may be found in the fact, that a Russian Embassy, with extensive powers, is, it is stated, about to be established in the Sandwich Islands, a country with which Russia has at present no commercial intercourse of any kind.

With his vast military organization, it would be an easy and expeditious matter for the Russian Autocrat to connect all parts of his dominions in instantaneous communication with the Imperial Palace, and, without seeking reputation as a prophet, we predict that he will quickly do it.

Telegraphic Proposition Concerning the Washington National Monument.

From among the many letters received from gentlemen concerned in the operations of the principal lines in the Union (whether known as Morse, House, O'Rielly, or Bain Lines), we will occasionally select for publication such matters as may appear to be of general interest. With this view, we give now a letter from a prominent telegrapher on the House Printing Lines; because, aside from its suggestions respecting the public utility of a magazine like this, it makes an interesting proposition for enlisting and exhibiting the good feelings of the whole Telegraphic corps towards an enterprise of national interest—namely, the completion of the long-delayed Washington Monument:

Baltimore, October 16, 1852.

Donald Mann, Esq., Editor Amer. Tel. Magazine.

I have read the first No. of your Magazine, and am rejoiced to see the enterprise has been stated by one so capable, from actual experience combined with excellent editorial ability, and whose facilities for information relative to telegraphic matters are unequaled.

The Telegraph Magazine fills a vacuum which has long been felt. The public generally, and business men especially, need the work. The subject of telegraphing, in its daily operation, is very little understood by the public.

Every operator is aware that a large proportion of even the stockholders and directors of the Telegraph Companies, know nothing of the practical workings of its business operation. Your work lays the subject open to them, and, if they longer remain in ignorance, it is their own fault.

I would like, through your Magazine, to make a suggestion to the different Telegraph Superintendents and Companies: While the members of almost every other branch of business are contributing their mites and blocks to the erection of a monument to the Father of his Country, the Telegraph does nothing. I would suggest that *the receipts of the different lines for one day* (the 22d of February would be appropriate), be devoted to the purpose of adding *a Telegraph block*, or contributed to the general construction of the Washington Monument.

Hoping this suggestion will find some one to carry it through, I remain truly yours, T.

☞ It will afford us pleasure to receive the opinions and contributions of any Telegraphers disposed to aid in this laudable object, which will be duly acknowledged through the columns of the Telegraph Magazine.

The presentation of "a Telegraph Block" would be peculiarly appropriate, seeing the distinguished influence which American discoverers like HENRY, and inventors like MORSE and HOUSE, have exerted in *rendering practicable* "the great enterprise of the age."

Nova Scotia Telegraph, and the Restrictions on Communications.

We have seen a Telegram from Mr. Stewart, Secretary of the Nova Scotia Telegraph Company, in which he states that Mr. Cunard, the President of the company, has not yet returned from Europe.

As the communications which we published in our October number, on behalf of a large number of highly respectable journals, were addressed to Mr. Cunard, as President, this must be considered a sufficient reason for the delay in acknowledging the request thus respectfully made for such a modification of the rules of the Nova Scotia Telegraph as will accord with the doctrine of "first come first served," a doctrine which lies at the foundation of the Telegraph system, and which is enforced by law and public opinion, in all quarters this side of the Nova Scotia boundary.

Railroads and Telegraphs.

The connection between these two kinds of "internal improvement" is becoming so intimate and extensive, that we will glance occasionally at the progress of the railroad system as an adjunct of the telegraph. We will endeavor to "keep track" of the Locomotive, without detriment to our paramount duties towards the Lightning.

Railroad officers may find it their interest to file the "American Telegraph Magazine" in their offices, as suggestive of matters that may be useful in connection with the use of the Telegraph for railroad purposes.

Newfoundland Electric Telegraph—its Progress and Prospects.

The engraving illustrative of the route of this highly important range of Telegraph, under the charter of the Newfoundland Electric Telegraph Company, which was to have been published in this number of the *Telegraph Magazine*, is unavoidably deferred till a future number, at which time also many interesting particulars will be given for public information.

Meantime, we confine ourselves to an enunciation of a few facts—such as, that the work is proceeding vigorously; that the wire for the line through Prince Edward's Island had arrived there, along with the submarine line of conductors for underlying Northumberland Straits; and that, to aid in the building of the line, by transporting men and materials along the coast, the company has commissioned their new steamer, "Ellen Gisborne."

One other fact we may mention, as particularly important to the whole community, which is, that the regulations of the Newfoundland Telegraph Company preclude all favoritism in the transmission of dispatches—recognizing the right of every individual, whether he be editor, merchant, or mechanic, to have his dispatch transmitted in the order in which it is handed in—no person being allowed the use of the wires more than a few minutes while others are waiting for their "turn."

This is in accordance with law and opinion in the United States, and we trust such rules will not long find exceptions in any part of British America.

Proposed Telegraphs in Cuba.

The condition of things in Cuba—somewhat influenced, probably, by the flibustiering operations during the last two years—is evidently unfavorable to the establishment of telegraph lines by individuals or companies in that country. More than one attempt has been made, without success, to raise capital for that purpose.

Under this state of things, the "Junta de Fomento," under the sanction of the Captain General or Governor of the Island, have advertised for "a loan of all the money that may be needed" for the construction of telegraph lines—the loan to bear interest at six per cent.

We have conversed with a gentleman who was collecting information in New York concerning the cost and construction of the proposed lines in Cuba; and we are promised a statement of the decision that may be made by the authorities in Havana, whither he proceeded to submit the facts he had collected. Aside from all political considerations, the principal towns of Cuba should certainly furnish business enough to render reasonable returns for the capital employed in constructing and managing well-built lines, provided competent and economical agents be employed.

Rival Sub-oceanic Telegraphs between Europe and America, &c.

(Contrasted with the Atlantic and Pacific Telegraph.)

Visionary as such projects may seem to some people, the feasibility of connecting Europe and America by a Telegraph line, through the Atlantic Ocean direct, between Ireland and Newfoundland, and also by a route around the northerly coasts, via Iceland and Greenland, it may be mentioned as signally indicative of the enterprising spirit of the age, that both projects are now encouraged by the money and influence of energetic capitalists—men not usually engaged in chimerical projects. Of the results of their investigations, we may be able to speak advisedly in a few months. We do not allow ourselves to be skeptical in any thing within range of possibility; but we confess we would rather undertake "the job" of shooting lightning through double the distance on *terra firma* (across Asia) between the Russo-European and Russo-American possessions of Imperial Nicholas.

These sub-oceanic Telegraph Projects are certainly commanding considerable discussion. The London Athenæum, while admitting the success of subaqueous telegraphs for "fifty or a hundred miles," doubts the practicability of stretching telegraph cables or conductors for "two or three thousand miles in the Ocean." Of the two Oceanic projects above-mentioned, the Athenæum seemingly prefers the northerly coast route, touching "at the Orkney, Shetland, and Faroe Islands," and sweeping over Iceland and Greenland, to "a point on Davis's Straits, near the Arctic Circle, so to Cape Walsingham, and thence across Hudson's Straits into Upper Canada." Such are actually among the projects on which cool and calculating men are now spending thought and money.

The London Morning Post is seemingly strong in the faith, and plunges headlong into the "broad Atlantic," apparently disdaining the round-about way of jumping from island to island around the Arctic seas. "The *only* difficulty of the undertaking," says the London Post, "is to provide the requisite funds." And its editor continues, "Making an estimate for a wire rope one inch in diameter, covered in the required manner, the cost would be £50 per mile, and the nearest points of America and Europe being 2,000 miles apart, the whole expense would not exceed $2,500,000. The importance of such a work is not to be estimated by *thousands of millions*."

☞ Now for a comparative view of another extensive project—the "Trans-Continental Telegraph" across North America, between the Atlantic and Pacific:—

Steamers have now brought Europe and America within eight or ten days of each other; and that time will probably be abbreviated one quarter when the Newfoundland Telegraph is completed.

The quickest mode of intercourse by steamers between New York and San Francisco, occupies from twenty-five to thirty days, or about thrice the average rate of passage between Liverpool and Halifax—from which latter point the telegraph distributes the news over the country as far west as the Mississippi.

Now, as a telegraph line across the Atlantic, which could save but eight or ten days at most and which could not diffuse any benefits at "way stations" along the route, is "*not to be valued by thousands of millions*," in the estimation of distinguished British journalists—perhaps the importance of telegraphic and mail communication across our own American territories, between the Atlantic and Pacific States, may be deemed sufficiently established to warrant the Federal Government in distributing a couple thousand men in stockades twenty miles apart along the route, to enable some company to carry out O'Rielly's project, as developed in the Memorial and Law now under the consideration of the present Congress.

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Telegraph in South America.

Telegraphs, like Railroads, are rare as yet in South America; though we doubt not that the governments of the southern nations generally, will soon follow the example of the Mexican Government in encouraging the establishment of lightning lines.

The only recent item of interest in this connection is, that an Electric Telegraph is to be commenced shortly along the railroad route between Copiapo and Santiago, in Chili. Though railroad companies in our United States have been generally rather slow in availing themselves of the advantages of Telegraphs, it is evident that the railroad companies in other countries concur with Le Verrier in the opinion substantially that no railroad equipment is complete without an electric telegraph to facilitate the transaction of its business.

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Telegraph in Central America.

The attempt made to get up a line of Telegraph between Aspinwall and Panama, along the railroad route, undertaken by Henry J. Rogers, Esq, of Baltimore, in connection with Capt. Pelletier (which latter individual is already known in New Grenada), is said to be suspended for the present—at least till another year.

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☞Some other movements are on foot respecting Central America, which will be noticed in due season.

Unity of the Union—Warnings from the Pacific Coast.

(The Telegraph as a Pioneer of the Railroad.)

The California Journals are eloquently enforcing the necessity of immediately establishing the proposed "Telegraphic and Postal System, along a Military Route, *across our own territories*, between the Atlantic and Pacific States."

From the "Sacramento Union," of which a Californian friend has forwarded us several numbers containing various excellent essays on the subjects embraced in O'Rielly's project, we copy a single article illustrative of the character of the difficulties now experienced by emigrants and travelers on the Overland Route commonly traveled—in which article the editor enforces the necessity of immediate and liberal governmental action in establishing the stockades required for protecting emigrants and settlers, while incidentally facilitating the establishment of telegraphs and quickening the letter-mails across the Continent. The articles of the "Union" breathe a philosophical and patriotic spirit, worthy of the elevated subjects discussed:—

Military Posts upon the Overland Route.

(From the Sacramento Union.)

We cannot imagine a more commendable and humane enterprise for Congress to engage in, than the establishment of an additional number of military posts between Fort Leavenworth and the Sacramento Valley. Whilst there can scarcely be urged a valid or important objection against the project, there can be arguments adduced in favor of it, and reasons assigned for such an undertaking, *ad infinitum*. It is a project of primary importance as a work of humanity; and, independently of this, it is most essential to the interests of the Government, and to those elements of which the Government is composed. At the present time the military posts upon the Overland Route to California are so wide apart that they are of too little utility. From Fort Leavenworth to Fort Kearney, a distance of three hundred and ten miles must be traversed before the emigrant has his weariness relieved by any of the pleasures and comforts that are incident to such stopping places. And in making this distance, emigrants have to travel through a country in which the Pawnee and Sioux are not unfrequently troublesome. Then, from this post to Fort Laramie, a distance of two hundred and seventy-two miles, there are many difficulties to be encountered on account of the scarcity of wood, and frequently from the sickness which begins to develop itself among those who are unaccustomed to this kind of life. Between each of these places there ought to be an additional military post or posts immediately established. From fort Laramie to Fort Hall, the emigrant has to pass over a distance of 600 miles. This, too, over a road which in many places is difficult and fatiguing in its effects upon travelers. From Fort Hall the route to California does not lead the emigrant through another station of the kind until he arrives in this country. If instead of taking the route to Fort Hall, he goes by the way of Fort Bridger, he travels from Fort Laramie a distance of three hundred miles, and from this last military station upon this road, he has to travel 196 miles to Salt Lake. From Salt Lake, as is well known, there are no stations of either a military or trading character.

The absolute impropriety of leaving unprotected the emigrants of our country over such difficult and dangerous roads, is too obvious to need special reference. Between Fort Laramie and this Valley, there ought to be immediately established at the least calculation a dozen new military posts, and these posts ought to be so well supplied that they could meet any of the emergencies that may arise from the destitution of emigrants, from any prevailing sickness, from being circumvented by the setting in of tempestuous or wintry weather, or from the aggressions of Indians. These emergencies are continually arising, and they demand such a manifestation of protection and regard from their Government. It is the duty of the nation to afford every protection that may be needed by its citizens, especially in the territory of the Government. But aside from duty in this case, it is evidently the policy of Congress, if they would avail themselves of the great advantages of such an enterprise.

By establishing these military posts, they will open the road to a system of improvements and increase of overland emigration which will lead to the perfect and full settlement of all the points of the route at which trading houses and villages can be established. And the more thoroughly this improvement of the route is developed, the greater will be the facilities of Government for the transportation of stores and troops to their Pacific possessions. Such a course of improvements may soon give rise to the establishment of stage lines from Fort Leavenworth to Sacramento, and at any rate, it would reduce to perfect practicability the opening of telegraphic communication between our extreme Eastern and Western cities. And if our government had nothing more in view than such a magnificent achievement as the opening of such an electric medium of intercourse, this itself would suggest the scheme as one infinitely worthy of its immediate attention and patronage. Such a channel of communication is of immeasurable importance to a Government that would preserve its influence throughout its remote possessions. If Congress would identify itself with the sympathies of those who are to develope and extend the principles of their Government as they have been taught them in the great school of republicanism, they can only effectually and completely do it by establishing such a means of exchanging the salutations of regard and business. But not only would Congress be certain to induce a degree of enterprise necessary for the rapid opening of a line of telegraphic communication; but if anything in the world would make the establishment of a railroad, a feasible and probable enterprise, it would be the immediate and liberal response of our Government to the military settlements of our overland routes to California and Oregon.

But until we perceive a national apathy upon the subject that repudiates all utility of suggestions, we shall continue to urge matters that bear upon the necessity of thoroughly opening not only an immigrating communication, but a medium through which a telegraphic intelligence may be transmitted. There is no enterprise that relates itself so naturally, so legititimately, and so cogently to the Government of the United States, as the immediate establishment of an electro-magnetic telegraph between the Pacific and Atlantic shores. In every aspect in which it can be contemplated, it is worthy of the patronage of our Government, and cannot be neglected without a betrayal of our character for enterprise and national sagacity. The probable expense of constructing it does not exceed the expenditures which are being continually made in local projects, that in point of importance and grandeur are as insignificant as the fleeting meteor of midnight is to the blazing sun of noon-day. And if Congress do not take into consideration the necessity of establishing the requisite number of military posts for the defense and protection of immigrants and emigrants across the plains, if it do not fully respond to the obvious demand, then will it disappoint the expectations of those who have been watching its onward career with trembling anxiety. The eyes of the world have been upon us; they are now piercing into every movement of our country as if our every step was indicative of a confirmation of the great axiom of history, that national extension must be followed with prostration and decay, an aphorism with which the world has been made so familiar that a man has an *involuntary anxiety about the welfare of a country he loves, when that country is rapidly extending its boundaries.* History certainly makes *territorial enlargement* and the *expansion of a nation* an *element of ruin, a principle of decay.* But because such has been the case heretofore—because Empires, Kingdoms, Republics and Democracies have developed this principle in their rise progress and decay, it is no necessary reason why the rule should be applied to our government. The only way in which such a principle of extension and prostration *can be avoided*, is *by applying all the stimulus and power which science and art have revealed in the generation and confinement of steam*, the *subordination of electric currents, to the sublime and mystic function of communicative intelligence*, the astounding strides which have been made in marine architecture, and the belting and binding influence that springs from the iron roads that penetrate the valleys and the fields of an enlightened and progressive country. By such means can our brilliant Government antagonize the aggressions of adversity; by such means can she disarm extension of its terrors, and, through the medium of enlargement, reveal herself a bright and potent exception to the conceded rule of history.

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Topics Telegraphic—World-wide in their Scope.

The Home Journal, in a paragraph saluting the appearance of the American Telegraph Magazine, expresses surprise that any one branch of business can furnish such variety of topics as was brought under consideration in our first number.

A glance at this and future numbers will probably indicate that, where any failure occurs, the defect must be ascribable to want of tact and ability on our part, rather than to any inherent deficiency of interest in the branch of journalism which we have thus originated.

Surely there is nothing in the History of Improvement among Mankind, that comes "home" more closely to the interests of society in all its relations, wherever established—nothing that is calculated to pervade more rapidly all sections of the civilized world—than the Electric Telegraph. And if the London Morning Post is correct in declaring that the value of telegraphic connection between Europe and America alone "could not be estimated by thousands of millions"—if the Ceylon Journal does not exaggerate in saying that "since the dispatch of Col. Clive, after the battle of Plassey, announcing the conquest of the three Soubahs, which was the foundation stone of British power in the East, no document of interest or importance has equaled the report presented to the Bengal government announcing the completion and successful operation of the Telegraph from Calcutta to Kedgeree"—(a distance of only seventy-one miles, but important as a commencement of telegraphing in the Indies)—if it be true that no subject of American national policy, aside from questions of liberty and independence, is comparable in importance with the project of Telegraphic communication across our own territories between the Atlantic and Pacific Oceans—if these and a hundred other matters connected with the telegraph, are not exaggerated, surely the operations of the telegraph system throughout the world should be sufficient to furnish us with materials for a monthly magazine, even though we should not seek to diversify our columns by occasional glances at electricity in all its other developments, as well as at other matters connected with that "Progressive Spirit" typified by the Electric Telegraph.

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Alleged Manufacture of Telegraphic Dispatches by Newspaper Agents.

It is to be hoped that none of our fellow-citizens will judge of the newspapers by the character which their editors sometimes give of each other. Foreigners sometimes fall into the error of forming opinions on these data; and hence the "Trolloping" with which our worthy country—and "a great country" it surely is—is occasionally belabored on account of its press.

If what is frequently stated in some of the New York journals be true of the others, a system of fraud is practiced by some newspaper agents which seriously affects not only their own character and the character of the editors who employ them, but also affects more or less the character and interests of the Telegraphers and Telegraph Companies. People generally, on hearing about "fabricated telegraphic dispatches," may, and do, very naturally suppose, that the telegraph and the telegraphers are in some way implicated in the rascality; whereas, in fact, the frauds, if any frauds there be, are concocted and published by agents of newspaper editors, who use the telegraph just as they use Uncle Sam's mail bags in transmitting "news" for publication.

The reader of certain New York morning papers especially, will readily remember many charges of fraud in connection with the telegraphic dispatches published in certain evening papers here, and in other papers elsewhere through the Union. The Evening Post, the Commercial Advertiser, and other well-known journals, are classed among the prints that frequently publish dispatches which are deceptive and fraudulent.

The charge is a serious one; and as we show no forbearance towards telegraphers charged with offenses against the sanctity of news dispatches (for evidence of which see articles in this and the preceding Magazine, headed "Abuse of the Telegraph"), we will probably be considered within our province in invoking the attention of our venerable daily cotemporaries to an adequate investigation of charges which vaguely implicate "the Telegraph" as well as themselves and their News Reporters.

Feats of Engineering at the Niagara, the Genesee, and the Hudson.

The forthcoming "Pictorial American" newspaper, projected by Mr. Barnum and Mr. Henry D. Beach (the latter having lately retired from partnership with his brother in the New York Sun), may find considerable employment for its writers and artists in describing and illustrating the remarkable scenes presented along our vast lines of Internal Improvement.

A friend of ours years ago remarked that it was worth a visit to the Upper Genesee Valley (in Allegany county, &c.), to behold the extraordinary region through which Yankee enterprise was attempting to construct a canal,—the canal itself being a curiosity of no ordinary character—sometimes led along precipices three or four hundred feet above the level of the river, as in the neighborhood of Portage, where the falls and rapids within a couple of miles form an aggregate waterfall of about three hundred feet, or double the hight of Old Niagara.

In addition to the engineering feats in the way of canalling in that region, there is now erected, in the chasm through which rolls the Genesee, a railroad bridge, which is one of the curiosities of the age; the trains running across it at an elevation of about 240 feet above the foundation of the bridge, and the edifice having required for its structure the timber from about two hundred acres of the surrounding forest. But it is needless for us to attempt description of a scene which was eloquently described by so many of the editorial corps who participated in the festivities at the "inauguration" of the railroad lately completed through that region.

The suspension bridges across the Niagara, one of which is designed for a railroad connection between the contiguous territories of Johnny Bull and Brother Jonathan, reflect a degree of credit upon the engineers which entitles them to all the glories of illumination with the pencil and pen. We refrain from dwelling on the "glories of Niagara," seeing that the subject has already been mentioned by some few out of the millions of visitors at that shrine of nattural beauty.

We now descend from the aerial hights above the western rivers, to take a dive *under* the Hudson;—for the project of tunneling is not only agitated, but determined upon; and the plan proposed by Robert Higham is approved by the representatives of the several Railroad Companies that seek a passage across the Hudson at Albany. Our Trojan friends, who successfully resisted the "bridging" of the Hudson at Albany, are now likely to be literally undermined, as the "Higham Tunnel," as we take the liberty of styling it, will soon "cut under" all opposition, in a manner alike unexpected and reasonable, as this section of "under-ground railroad," will actually cost less than a million of dollars.

We congratulate the various Railroad Companies interested in the matter, on the certainty of accomplishing, on such moderate terms, an object long and fervently desired by multitudinous travelers.

Telegraphs in India—Commencement of Improvement in the East.

The successful introduction, or rather commencement of the Telegraph system in the British Indian possessions, forms an agreeable change from the stereotyped stagnation in most matters connected with mental or physical effort in that important section of the world. The "Honorable Company" which has long ruled that eastern empire with steel and gunpowder, is now diversifying the uses of "batteries" and "cold iron," by employing them in transmitting intelligence, instead of piercing the hearts or blasting the brains of the subjugated Hindoos.

We confess that few things connected with the Telegraphic enterprise have interested us more than the attempted and now successful introduction or commencement of lightning lines in the East Indies. It may be taken as an indication of "progress," in that rich region, which must ere long become the theater of mighty events, worthy of its ancient fame. About 3000 miles of Telegraph are to be constructed during the next year or two, to connect all the principal towns in British India, under the charge of Dr. O'Shawnessy, an officer of the East India Company's medical staff, to whom we alluded in our last—a gentleman whose operations are dictated by an independent mind, which deserves honor even where we cannot altogether agree with its opinions.

Before referring particularly to some important points in the practical experience of the worthy doctor, as we find that experience mentioned in the "*Ceylon Journal*" and the "*Friend of India*," we cannot refrain from quoting, in this connection, a sentence which we have quoted elsewhere, to the effect, that "Since the dispatch of Clive, after the battle of Plassey, announcing the conquest of the three Soubahs, which was the foundation stone of British power in the East, no document of interest or importance has equaled the report presented to the Bengal Government, announcing the completion and successful operation of the Telegraph from Calcutta to Kedgeree,"—a short section, to be sure, but immensely important, as the first decisive step towards diffusing telegraphic advantages all over India.

We have room now only for a few brief quotations from the remarks of the "Friend of India," respecting the sort of conductors and insulators used by Dr. O'Shawnessy in the East Indies; which quotations, we think, will probably furnish food for reflection to many of our telegraphic friends, in connection with the frequent interruptions to which our American lines .are subjected, even though possessing apparent advantages in insulation. These statements carry us back to the time when Mr. O'Rielly, who was the first to use heavy iron wire or cord on the American lines, had to contend with all sorts of opposition in attempting to use conductors heavier and of different metal from the frail copper threads that had previously been recommended and used by persons who were supposed to be better versed in the science of electricity as connected with telegraphing. The "Friend of India" says:

"The overground lines differ totally from those in use in England and America, or any other country, in this important respect,—No wire is used. Instead of wire, a thick iron rod, three-eighths inch diameter, weighing one tun to a mile, is adopted—the heaviest wire elsewhere used being only 1 cwt. to the mile. The advantages of these substantial rods are these: they possess a complete immunity from gusts of wind or ordinary mechanical violence; if accidentally thrown down, they are not injured, though passengers, bullocks, buffaloes, and elephants may trample on them; they are not easily broken or bent; owing to the mass of metal, they give so free a passage to the electric currents, that no insulation is necessary; they are attached from bamboo to bamboo without any protection, and they work without interruption through deluges of rain; the thickness of the wire allows of their being placed on the post without any occasion for the straining and winding apparatus; whereas the tension of wires exposes them to fracture, occasions expense in construction, and much difficulty in repairs; the thick rods also admit of rusting to take place, without danger, to an extent which would be fatal to a wire; and lastly, the rods are no more costly than thin wire, and the welding occasions no difficulty. On several occasions one village forge, carried by two coolies, has been found sufficient for welding a mile of rods in a working day. The rods, moreover, are not likely to be injured by crows or monkeys.

Swarms of kites and crows perch on the lines through the swamps, but they cause no harm; the correspondence flies through their claws without interruption, though on one occasion a flash of lightning struck the wet rod, and killed some scores of them. The importance of this discovery of the superiority of rods over wire will be fully appreciated in a country like India, where the line must often run through a howling wilderness tenanted by savage beasts, or more savage men. The lines must therefore protect themselves, and this is secured by the use of thick rods.

The most difficult experiment on the line from Calcutta to Kedgeree was that of crossing the Hoogly. A chain of seven-eighth inch iron cable is being laid across the river, which will, doubtless, sink in many places below the reach of anchors, where the bed is of soft mud; but there will be contingencies in which ships must drag their anchors, and endanger the continuity of the chain. Every precaution has been taken to prevent interruption, but this river crossing must always be a source of anxiety. It is, however, gratifying to know that there will be no danger of any such interruption on any of the other rivers in India.

From the day when the electric telegraph was definitively opened, to the date of the report, there has been no interruption in the correspondence.

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Telegraph Patent Cases—Important Decision in Patent Law.

Half-a-dozen years spent in litigation, should furnish at least some strong points in jurisprudence illustrative of the topics about which so much time and money and patience were engrossed.

The Telegraph is not more remarkable as a "fixed fact" in society, than it is a stubborn one in the legal records of our country.

Judge Kane, of the Eastern District of the United States Court in Pennsylvania, has had some opportunity of understanding all sides of the telegraph controversy. He was first called upon, in the suit of Morse and others versus O'Rielly, to put an injunction upon O'Rielly, which his honor very graciously refused to do, after he had heard affidavits and arguments enough to fill a book as big as the Mormon Bible—with all reverence be it spoken!

The same judge, after undergoing the infliction of several huge volumes of printed affidavits on all sides of the knotty case of French and others versus Rogers and others, involving the question between the Morse and Bain patents, gave his opinion, strong as the southwest wind we are experiencing on this blessed fourteenth of November, against the Bain pretensions, and in favor of Morse—to an extent that, if sustained by the Supreme Court (and Judge Kane's opinions are not readily overturned), will blow sky-high some other telegraph patents, and establish Morse's claims on a platform broader and firmer than we supposed they could properly occupy.

These opinions of the worthy Judge, we will in due time bring in review, as we intend to review and record all matters having any essential bearing on the Telegraph in its origin and progress.

Our purpose is now merely to state the points on which he decided against the Bain Line and in favor of Morse, in the case last mentioned—his "opinion" on the subject having occupied three columns in small type of the Philadelphia Ledger. The points decided are these:

1. That an art is the subject of a patent, as well as an implement or a machine. 2. That an inventor may surrender and obtain a reissue of patent more than once, if necessary. 3. That Professor Morse was the first inventor of the art of recording signs at a distance by means of electro-magnetism, or the magnetic telegraph. 4. That the several parts or elements of the Morse telegraph are covered and protected by his patent as new inventions, and are really new, either as single, independent inventions, or as parts of a new combination for the purpose specified. 5. That the patent granted to Prof. Morse for his "local circuit" is valid, and that the "branch circuit" of the Bain line is an infringement of it. 6. That the subject and principles of Bain's chemical telegraph are clearly embraced in Morse's patents.

☞ The correspondent who favors us with a pamphlet controverting the positions of Judge Kane, will be gratified by a place in our columns when he condenses the pamphlet into an article of reasonable length for a magazine.

At present, we refrain alike from copying the reasoning of the Judge in support of his positions, and from any comment of our own upon those positions—contenting ourselves for the time by discharging our duty as a chronicler in narrating the simple facts of the catastrophe

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Movements of Telegraphers, Etc.

The Rochester American says that "Mr. Wm. H. Hall, for some months past the Morse operator in that city, has returned to the New York office, and his place is supplied by Mr. Samuel Pellet, a long time attache of the Rochester office. Mr. Hall is a gentlemanly and accomplished operator, and thoroughly posted in all the requirements of his office.

The same paper adds, that Mr. Pellet, the new operator, is known to all the patrons of the Morse office, and is a favorite with all. The Directors "struck a vein" when they appointed him.

Henry J. Rogers, Esq., it should have been stated elsewhere, has been appointed Superintendent of the united Morse and Bain lines between New York and Washington. Mr. R. was the first assistant appointed at Baltimore by Professor Morse, on the short experimental line built for the government in 1844, between Washington and Baltimore. Mr. R. built the Bain Line, between New York and Washington, for Messrs. Lee and Barnum, of Baltimore, which line is now one of the united lines, of which he is one of the officers. When some particulars are received, we will refer further to his services.

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Corrections—Personal.

The New York Sun corrects our error respecting the present location of Moses Y. Beach, the Patriarch of the cheap Newspaper Press. *That* Mr. Beach has, "for three years past, resided at Wallingford, Connecticut—the home of his fathers—where he has a mansion second to none in the country for location, beauty, and comfort." M. S. Beach, son of the veteran, is now publisher of the "Sun."

Our friend of the "Sun" will excuse us for correcting a mistake which occurred in the course of a friendly notice of the establishment of the "National Telegraph Magazine." "We think we see evidence in its pages," says the Sun, "of the enterprise of Henry O'Rielly, the indefatigable; and hence presume that he shares in the proprietorship," &c. It is due to Mr. O'Rielly to state that he is *not* concerned in the proprietorship or profits; though he freely aids this Magazine, as he aids all inquirers about telegraphic matters, by communicating any information within his reach concerning an enterprise to which his life is largely devoted.

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"Never Give Up!"

If the doctrine of the following stanzas had not been practically exemplified by some of the persons who have been most particularly connected with the Telegraph, the manifold difficulties that had to be overcome, would have prevented the Lightning Lines from extending with such astonishing rapidity in America:—

NEVER GIVE UP!

Never give up! it is wiser and better
Always to hope than once to despair;
Fling off the load of Doubt's cankering fetter,
And break the dark spell of tyrannical care:
Never give up! or the burthen may sink you—
Providence kindly has mingled the cup;
And in all trials or troubles, bethink you,
The watchword of life must be, 'Never give up!'

Never give up! there are chances and changes
Helping the hopeful a hundred to one.
And through the chaos, High Wisdom arranges
Ever success—if you'll only hope on:
Never give up! for the wisest is boldest,
Knowing that Providence mingles the cup,
And of all maxims the best, as the oldest,
Is the true watchword of Never give up.

Never give up! though the grape-shot may rattle,
Or the full thunder-cloud over you burst:
Stand like a rock, and the storm or the battle
Little shall harm you, though doing their worst:
Never give up! if adversity presses,
Providence wisely has mingled the cup;
And the best council, in all your distresses,
Is the stout watchword of Never give up.

POSTSCRIPT.

British Electric Communication with the Continent of Europe.

(To be extended to Africa.)

The most important intelligence furnished by the Collins Steamer Atlantic, which arrived just as this "form" was ready for press, is the fact that another telegraphic bond is added to the chain of lightning intercourse between the European nations, by the completion of a new line direct from London, through France and Belgium, to several other nations of Europe, to be extended soon to Russia, and also to *Africa*—the Mediterranean to be *underlaid*, like the British Channel, with the insulated wires.

We have only space now to quote a couple of paragraphs on the subject.

(From the London Gazette, Nov. 1.)

A crowd of scientific and distinguished persons congregated this forenoon at the office of the Submarine Telegraph Company, in Cornhill, to witness the opening of electric communication direct between Great Britain and the continent of Europe, *via* France and Belgium. The company have had to contend with much difficulty in carrying out their intention, in consequence of the opposition offered to their plans by the French government. This, we are happy to say, has been partially removed; and by a line of wires (just completed) laid down along the old coach road between London and Dover, *via* Doncaster and Canterbury, in connection with the submarine cable across the Straits of Dover, *instantaneous communication is obtained between London, Paris, Sweden, Trieste, Cracow, Odessa, and Leghorn. We were informed the wires were being carried onward to St. Petersburg, also to India, and into the interior of Africa.* Several splendid machines were exhibited, to the gratification of the guests, and messages sent to Paris, and answers received, within one minute.

(From the London Times, Nov. 2.)

There were many persons present yesterday, at the opening of the direct telegraph route between Cornhill and Paris; and yet there were comparatively few of them who could not remember the starting of the first sea-going steamer; but some, perhaps, who could not recollect the inauguration of the first railway, and not one who might not be able to call to mind the time when Faraday first compelled the sly spark to twinkle forth from the reluctant magnet. The interest attached to the proceedings yesterday arose from the circumstances, that, though a telegraphic communication has existed for some time between London and Paris, by means of the Submarine Electric Telegraph, in connection with the wires on the Dover line, and those on the coast of France, yet that this was the first attempt to speak direct to Paris from Cornhill, by the wires of the Submarine Telegraph Company, and the European and American Telegraph Company, which have laid down a line of wires along the mail coach road from London to Dover, where it is connected with the submarine cable, and thence is brought into communication with the French line to Paris.

Telegraphic Movements among the Boston Merchants.

(About Restrictions on the Nova Scotia Line, &c.)

Some of the most influential merchants and traders of Boston have commenced an organization for the purpose of accomplishing some of the reforms which were suggested in the October number of the *American Telegraph Magazine*. The removal of the present restrictions on the Nova Scotia line, of which Mr. Cunard is President, would accomplish all that is desired; as then it would be practicable for every merchant and journalist in Boston, and everywhere else, to have a fair chance of getting dispatches from Europe in the order in which they might be offered, after the arrivals of steamers at Halifax.

The annexed article appears under the Telegraphic head, on the 14th inst.

(From the New York Commercial Advertiser.)

The following document has been posted in the Exchange Reading Room, and already a large number of signatures have been affixed:

"The merchants of Boston deem it a duty they owe to themselves, as well as to their growing city, to call upon the press and the Exchange to have the latest intelligence, both foreign and domestic, placed before them with as little delay as any other city.

"Also, with regret we are obliged to say that we have for a long while borne the mortification of seeing our neighbors furnished with news many hours in advance of ourselves; and it is well known that dispatches of foreign intelligence from Halifax, frequently pass through this city to New Orleans and back, before a syllable is allowed to be made public here.

"This we consider highly improper, and we are astonished that it should have been submitted to so long. It certainly is unworthy the public spirit and liberal enterprise of Boston. A change must be made; we call for it at once, and have it we must."

Signed by E. M. Appleton & Co., George B. Upton, Josiah Bradlee & Co., Sampson & Tappan, E. E. Bates & Co., Enoch, Train & Co., and many other leading mercantile houses.

☞ For Telegraph Tariffs, see Cover.

List of Telegraph Officers.

We are preparing a List of all the Officers of Telegraph Lines through the United States and British American Provinces,—which we wish to make as perfect as possible. We do not merely design to present the names of the Presidents and Secretaries of Companies, but also the names and locations of that class of officers (the Telegraphers) with whose faithful discharge of duty the public interests are so largely connected. We wish to arrange the names in the same manner as the official lists of the Federal Government—showing the birthplace, location, &c., of each Telegrapher; and we hope to be furnished promptly with all the requisite information from the chief of every office in America, by letters addressed to us at New York.

☞ We published the above in our first number, and again call attention to it. Our acknowledgments are due to those Telegraphers who have already complied with our request. The subject is one of public interest; for all our fellow-citizens are interested in knowing who they are that "control the lightning," and are the depositories of the confidential correspondence of the whole community.

Telegraphs in Foreign Countries.

We had hoped to obtain for this number a brief account of the present condition of Telegraph matters abroad, particularly in Britain and France. We have the promise of such a statement from a person of high scientific and practical attainments, now in England, who has been for several years connected with the Telegraph business in Europe, and whose statement will be interesting to all our readers.

We hope to have it, or at least a part of it, for our next number.

Date of Publication.

The fifteenth of the month has been selected as the day of publication of the "American Telegraph Magazine," instead of the first, which will account for the apparent delay in the issue of this second number.

Persons intending to Subscribe

Should apprise us at once, so as to secure a regular series of the numbers. But few copies remain of the first issue.

The present number, like its predecessor, will indicate our determination to make the work a faithful chronicler of the "great enterprise of the age," as that enterprise develops itself throughout the world.

The Historical Notices of Telegraphic progress, which will be continued regularly in each number, will alone form a work of reference which cannot elsewhere be found without considerable outlay of time and money.

To Correspondents.

Various matters are deferred, in consequence of inability to crowd more into the present number of our Magazine, although we have printed several additional pages. Such topics as are delayed, will be duly attended to in our December number.

Persons wishing to Advertise,

Will find their interest in publishing notices in the advertising department of the American Telegraph Magazine—circulating, as it does, among a class of persons occupying important positions, and scattered all over North America. (See rates of advertising.)

To Telegraphers.

Good Telegraphers, wishing to change their positions, or obtain situations, may find it to their interest to advertise in the American Telegraph Magazine. By an advertisement in this number it will be seen that some Telegraphers are wanted, "to learn and work the House System."

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New Brunswick	22	59	211	20	1	38 Albany st.
Princeton	18	77	193	20	2	Princeton R. Depot.
Trenton	10	87	183	20	2	Cr. State & Warren.
Philadelphia	29	116	154	25	2	101 Chestnut st.
Wilmington	30	146	124	35	3	Cor. Third & King.
Havre de Grace	47	193	77	45	3	St. John st.
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Albany,	80 "	2 "
Troy,	30 "	2 "
Fort Plain	30 "	2 "
Herkimer,	30 "	2 "
Utica,	30 "	2 "
Syracuse,	40 "	8 "
Oswego,	40 "	8 "
Watertown,	40 "	8 "
Ogdensburg,	40 "	8 "
Auburn,	40 "	8 "
Palmyra,	40 "	8 "
Rochester,	40 "	3 "
Brockport,	40 "	8 "
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"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.
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VOL. I.—NO. 3. **NEW YORK, DECEMBER 15, 1852.** DONALD MANN, EDITOR.

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AMERICAN

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"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.

"I'LL PUT A GIRDLE 'ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPEARE.

VOL. I.—NO. 3. NEW YORK, DECEMBER 15, 1852. DONALD MANN, EDITOR.

Historical Notices of Electric Telegraphs throughout the World.—No. II.

The publication of selections from Judicial records, respecting the Origin and Progress of Electric Telegraphs throughout the world, which we commenced last month, is continued in the present number of the American Telegraph Magazine.

The first installments, including a retrospective review of the whole field of Electric discovery by Dr. W. F. Channing and Col. Chas. B. Moss, brought down the history to the period of Professor Morse's first Patent.

And the second installment, which we here submit to the reader, furnishes the most authentic evidence, in the shape of a deposition from Professor Morse himself, of the origin and progress of the invention on which is based his claim to the honor of having organized the FIRST RECORDING ELECTRIC TELEGRAPH—his claim to originality in that matter, dating back several years before his Patent of 1840.

This statement of Professor Morse was made under Judicial requirement in one of the most important recent cases of collision under the Patent Laws—namely, the case of French *versus* Rogers and others—which involved particularly the interests of the Morse and Bain lines between New York and Washington, and which indirectly affected the interests of all concerned in the operations of the two systems in other regions.

The interrogatories and cross-interrogatories to which Professor Morse was subjected in that investigation, elicited from him, as we may suppose, all or nearly all the essential facts on which rest his claims to the priority of invention abovementioned.

The examination of Professor Morse, with all its inquiries and replies, is given precisely as we find it in the volumes of printed evidence submitted in the important case already named, excepting only that the Appendix, or data referred to in the deposition of the Professor, as illustrating his statements, is deferred till the January number, owing to our inability to crowd *all* into the present Magazine.

PROFESSOR MORSE'S

Account of the Origin and Progress of his Telegraph System.

Circuit Court of the United States for the Eastern District of Pennsylvania. April Session, 1850.

BENJAMIN B. FRENCH et al. *vs.* HENRY J. ROGERS et als. in equity.

Interrogatories to be exhibited to witnesses to be produced, sworn or affirmed and examined, on behalf of the complainants, under a commission to be issued on the part of the complainants, to Poughkeepsie, Dutchess County, State of New York.

INTERROGATORIES TO BE EXHIBITED TO SAML. F. B. MORSE.

Interrogatory First.—Please state your age, residence and occupation.

Interrogatory Second.—Please state whether you were an attendant, during your collegiate studies, of any course of lectures on Natural Philosophy; and if yea, at what college, during what years, and by whom were such lectures delivered? and were the subjects of galvanism and electricity made parts of such lectures?

Interrogatory Third.—Please state the title of the text book used by the class, upon the subject of Natural Philosophy, while attending the lectures so delivered by Professor Day.

Interrogatory Fourth.—Please annex a true copy of Proposition xxi., Book v., of said text book, and of the examples therein contained for illustration, and state whether such illustrations were given by Professor Day in the said lectures, during your attendance on the same, and whether you then became familiar therewith.

Interrogatory Fifth.—What experiments and illustrations in the science of galvanism were made by Professor Silliman, in the lectures which you attended in his classes, for the years 1808, 1809 and 1810, referred to in your first answer above? Please describe any relating to the decomposition of substances by the agency of galvanic electricity.

Interrogatory Sixth.—Did you or did you not attend a course of lectures delivered by Professor Dana, in 1826 and 1827? Was or was not the whole science of electro-magnetism treated upon, and explained by illustrations and experiments? And were you or not on terms of intimacy with said Dana, at said period, and the subject of his lectures the topic of frequent conversation and discussion between said Dana and yourself? Please state whether the identical magnet then used in making his said illustrations, has or not been seen by you since, and when, and where it is now to be found, according to your best knowledge.

Interrogatory Seventh.—State what description of battery said Professor Silliman used in his above-mentioned lectures, when you were in college; and did he then explain fully in those lectures, and as a part of the same, their construction and management?

Interrogatory Eighth.—What was your occupation in the year 1830? Did you visit Europe, and for what purpose? When did you return? In what vessel, and who were your fellow-passengers?

Interrogatory Ninth.—Did you or not make any inventions or improvements in the art of telegraphing? If aye, state when and where, and give minutely and in detail, the history and progress of such invention. When, where, and how you made your experiments in reference thereto, and under what circumstances they were made. Describe your progress therein, the means used to perfect the said invention or improvements, and give, so far as may be in your power, the dates of each occurrence. If your inventions embraced any improvement in the art of telegraphing by chemical decomposition, and by electro-magnetism, describe the progress of each of said inventions particularly and in detail. Did you obtain patents for said inventions? In your answer hereto, state fully, carefully and minutely, each and every matter in relation to the several matters inquired of. When and how did you first apply for patents therefor respectively?

Interrogatory Tenth.—State the circumstances connected with the amended specification presented at the Patent office, upon which patent, dated May 1, 1849, was issued; give the same fully and in detail.

Interrogatory Eleventh.—In any conversation between you and Dr. C. T. Jackson, did he, or not, inform you of one or more modes by which a magnetic telegraph, for transmitting intelligence, could be constructed, with the details of such modes of construction? When did you first learn from him that he entertained the idea of having given you any information that is embodied in your invention of the electro-magnetic telegraph? What, if any, new idea in either chemistry, galvanic electricity, or electro-magnetism, or in the application of either, for telegraphic purposes, did he impart to you during the voyage on board the Sully?

Interrogatory Twelfth.—Has or has not any correspondence passed between said Dr. C. T. Jackson and yourself in relation to said invention? If aye, annex true copies thereof to your answer hereto.

Interrogatory Thirteenth.—Have you had any correspondence with Capt. Pell, of the ship Sully, and with any of the passengers on board said ship, during the voyage you have described, excepting Dr. Charles T. Jackson, since 1832, respecting your said invention? If yea, please annex a true copy of the several letters so written by you, and of the several, and of each answer thereto, received by you, stating on or about what time such answers were received by you, and in whose handwriting was each answer?

Interrogatory Fourteenth.—Do you know Henry J. Rogers, the defendant in this cause? When and how did you first become acquainted with him? Was he ever in your employ, and how and when,? And from whom did he first acquire any knowledge of the art of telegraphing, or the machinery connected therewith? State fully and at large the extent of your intercourse and business transactions with him.

Interrogatory Fifteenth.—Do you now, or can you set forth any other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them, or that may be material to the subject of this your examination, or the matters in question in this cause? If yea, set forth the same fully and at large in your answer.

St. George T. Campbell,
for Complainants.

December 27, 1850.

DEPOSITION OF SAMUEL F. B. MORSE.

Samuel F. B. Morse, of Poughkeepsie, Dutchess county, in the State of New York, a witness produced, sworn and examined, on the 6th, 7th and 8th days of February, in the year of our Lord one thousand eight hundred and fifty-one, at the house of said Morse, in the town of Poughkeepsie aforesaid, by virtue of a commission issuing from the Circuit Court of the United States, in and for the Eastern District of Pennsylvania, in the Third Circuit, to Robert P. Kane directed, for the examination of witnesses in a certain cause in said Court depending, wherein Benjamin B. French and others are Complainants, and Josiah Lee and others Respondents.

Samuel F. B. Morse, of Poughkeepsie, Dutchess county, in the State of New York, being produced, sworn and examined on the part of the complainants, deposeth as follows:—

To the *first* interrogatory on the part of the complainants, he answers as follows: I am 59 years of age. I reside in Poughkeepsie, Dutchess county, in the State of New York, and am at present a farmer.

To the *second* interrogatory on the part of the complainants, he answers as follows: I was a student of Yale College in the years 1807, '8, '9 and '10, and in the course of the regular studies of that institution, I was an attendant on the lectures of Professors Jeremiah Day and Benjamin Silliman. Professor Day delivered lectures upon Natural Philosophy and treated of the subject of Electricity, but not Galvanism. Professor Silliman lectured upon Chemistry, and incidentally upon Galvanism.

To the *third* interrogatory on the part of the complainants, he answers as follows: The title of our text-book with Professor Day was "Institutes of Natural Philosophy, Theoretical and Practical. By William Enfield, LL. D."

To the *fourth* interrogatory on the part of the complainants, he answers as follows: The paper annexed to this deposition marked A, and upon which I have written my name and the date of taking this deposition, is a true copy of Proposition XXI, Book V, of said text-book, and of the examples therein contained for illustration. The illustrations contained in this Proposition were shown to us by Professor Day, and we were made familiar with them.

To the *fifth* interrogatory on the part of the complainants, he answers as follows: Professor Silliman performed the usual class experiments and illustrations of the time; several of the salts were decomposed by Professor Silliman by means of galvanic electricity separating them into their elementary parts; separating the acids from their bases, and precipitating the metals from their combinations; for example, acetate of lead, separating the acetic acid from the lead.

To the *sixth* interrogatory on the part of the complainants, he answers as follows: I did attend the course of lectures delivered by Professor Dana, in the years 1826 and 1827. He gave a very full exposition of the science of electro-magnetism, so far as its progress was then advanced. He explained it by many experiments and illustrations. I was on terms of great intimacy with Professor Dana. As he was a colleague lecturer with me, in those days, at the New York Athenæum, I had frequent opportunities of conversing with him on the subject of his lectures, which I attended. He visited me frequently at my studio, and the favorite topic of conversation between us was electro-magnetism, a science in which he was an enthusiast. The electro-magnet which he exhibited at those lectures, and the first electro-magnet I ever saw, was in my possession, being a gift from Professor Torrey, the successor of Professor Dana, who purchased it, with other apparatus, upon Professor Dana's decease. It was required in evidence in a suit in Kentucky, some three or four years since, and is annexed to depositions on file in the Circuit Court of the United States for the Kentucky District, at Frankfort, Kentucky.

To the *seventh* interrogatory on the part of the complainants, he answers as follows: The descriptions of batteries which I most distinctly recollect were the two kinds known as the Cruickshank's battery and the Voltaic pile. These were explained by Professor Silliman, with great clearness; their construction, their manner of excitement, and their general management were taught us. They were taken apart and reconstructed before us.

To the *eighth* interrogatory on the part of the complainants, he answers as follows: I was an historical painter. I visited Europe in the latter part of 1829, for the purpose of studying my profession in England, France, Italy and Switzerland. I returned in October, 1832, in the packet ship Sully, Captain William W. Pell. I do not remember all the passengers, but I can name the Honorable William C. Rives and family, Mrs. Temple, Mr. Palmer and family, J. F. Fisher, Esq., Doctor Hazlitt, Lewis Rogers, Esq., Mr. W. Post, Doctor Charles T. Jackson, and William Constable, Esq.

To the *ninth* interrogatory on the part of t[illegible] complainants, he answers as follows; Shortly after the commencement of my return voyage from Europe, in the autumn of 1832, before referred to, the then recent experiments and discoveries in relation to electro-magnetism, and the affinity of electricity to magnetism or their probable identity, became the subject of conversation.

The special subject of conversation was the obtaining the electric spark from the magnet. In the course of the discussion, it occurred to me that by means of electricity, signs representing figures, letters or words, might be *legibly written down* at any distance.

At this time the idea of telegraphing in any way by electricity was new to me, and so far as I could judge, to every one on board the ship. So far as my knowledge then extended, I was ignorant that any one had previously entertained even the idea of an electric telegraph. Subsequent investigation has, however, shown me, that the first *idea* of telegraphing by electricity does not belong to me, and I therefore disclaim it; but in the modes proposed by me I *do* claim to have invented an entirely novel and useful mode and art of telegraphing.

All previously known modes of telegraphing were by evanescent signs. Had my invention rested merely in the *idea*, it would have been comparatively valueless; but at the same time I conceived a practical mode of carrying into effect my original idea. I claim then to have invented a new *art*. *The art of imprinting characters at a distance for telegraphic purposes*, and the mode and means of performing the same are set forth in my several letters-patent. And I also claim the use of sounds for telegraphing as set forth in my letters-patent.

The idea thus conceived of an electric telegraph took full possession of my mind, and during the residue of the voyage I occupied myself, in a great measure, by devising means of giving it practical effect. Before I landed in the United States, I had conceived and drawn out in my sketch book the form of an instrument for an electro-magnetic telegraph, and had arranged and noted down a system of signs, composed of a combination of dots and spaces, which were to represent figures or numerals, and these were to indicate words, to which they were to be prefixed in a telegraphic dictionary, where each word was to have its own number. I had also conceived and drawn out a mode of applying the electric or galvanic current, so as to make these signs by its chemical effects, in the decomposition of salts; and so also as to make sounds for telegraphing. Immediately after my landing in the United States, I communicated my invention to a number of my friends, and employed myself in preparations to prove its practicability and value by actual experiments.

To that end, before the commencement of the year 1833, being at the house of my brother, in New York, I made a mould, and cast a set of type representing dots and spaces, intended to be used for the purpose of closing and breaking the circuit in my contemplated experiments.

But for the want of pecuniary means, I found myself unable to purchase materials for an instrument and the galvanic battery and wire, and was compelled, for the means of subsistence, to betake myself to my pencil.

From the year 1832 to the latter part of 1835, my profession led me from place to place, affording me little or no time to experiment upon my conception of an electro-magnetic telegraph, although I never lost faith in its practicability nor abandoned the intention of testing it as soon as I could command the means. In the year 1835 I was appointed a Professor in the New York City University, and about the month of November of that year I occupied rooms in the University buildings.

There I immediately commenced, with very limited means, to experiment upon my invention. My first instrument was made up of an old picture or canvas frame fastened to a table; the wheels of an old wooden clock moved by a weight to carry the paper forward; three wooden drums, upon one of which the paper was wound and passed over the other two; a wooden pendulum suspended to the top piece of the picture or stretching frame, and vibrating across the paper as it passed over the centre wooden drum; a pencil at the lower end of the pendulum, in contact with the paper; an electro-magnet fastened to a shelf across the picture or stretching frame, opposite to an armature made fast to the pendulum; a type rule and type for closing and breaking the circuit, resting on an endless band, composed of carpet binding, which passed over two wooden rollers, moved by a wooden crank, and carried forward by points projecting from the bottom of the rule downwards, into the carpet-binding; a lever with a small weight on the upper side, and a tooth projecting downward at one end, operated on by the type, and a metallic fork also projecting downwards over two mercury cups, and a short circuit of wire, embracing the helices of the electro-magnet connected with the positive and negative poles of the battery, and terminating in the mercury cups. When the instrument was at rest, the circuit was broken at the mercury cups; as soon as the first type in the type-rule (put in motion by turning the wooden crank) came in contact with the tooth *on the lever*, it raised that end of the lever and depressed the other, bringing the prongs of the fork down into the mercury, thus closing the circuit—the current passing through the helices of the electro-magnet, caused the pendulum to move and the pencil to make an oblique mark upon the paper, which, in the mean time, had been put in motion over the wooden drum. The tooth in the lever falling into the two first cogs of the types, the circuit was broken when the pendulum returned to its former position, the pencil making another mark as it returned across the paper. Thus, as the lever was alternately raised and depressed by the points of the type, the pencil passed to and fro across the slip of paper passing under it, making a mark resembling a succession of V's. The spaces between the types caused the pencil to mark horizontal lines, long or short, in proportion to the length of the spaces.

With this apparatus, rude as it was, and completed before the first of the year 1836, I was enabled to and did mark down telegraphic intelligible signs, and to make and did make distinguishable sounds for telegraphing; and having arrived at that point, I exhibited it to some of my friends early in that year, and among others, to Professor Leonard D. Gale, who was a colleague professor in the University.

I also experimented with the chemical power of the electric current in 1836, and succeeded in marking my telegraphic signs upon paper dipped in turmeric and a solution of the sulphate of soda (as well as other salts), by passing the current through it. I was soon satisfied, however, that the electro-magnetic power was more available for telegraphic purposes and possessed many advantages over any other, and I turned my thoughts in that direction.

Early in 1836, I procured 40 feet of wire, and putting it in the circuit I found that my battery of one cup was not sufficient to work my instrument. This result suggested to me the probability that the magnetism to be obtained from the electric current would diminish in proportion as the circuit was lengthened, so as to be insufficient for any practical purposes at great distances; and to remove that probable obstacle to my success, I conceived the idea of combining two or more circuits together in the manner described in my first patent, each with an independent battery, making use of the magnetism of the current on the first to close and break the second; the second, the third, and so on. This contrivance is fully set forth in my patents.

My chief concern, therefore, in my subsequent patents, was to ascertain to what distance from the battery sufficient magnetism could be obtain to vibrate a piece of metal, knowing that if I could obtain the least motion at the distance of eight or ten miles, the ultimate object was within my grasp. A practical mode of communicating the impulse of one circuit to another, such as that described in my patent of 1840, was matured as early as the spring of 1837, and exhibited then to Professor Gale, my confidential friend.

Early in 1837, it was announced that Messrs. Gonon and Sewell, two French gentlemen, had invented a telegraph of wonderful powers for communicating information, which it was supposed was none other than an Electric Telegraph, though it proved to be only one form of the common visual telegraph. In consequence of this announcement a notice of my invention was published in the New York Observer, edited by my brother, dated April 15th, 1837, in which, however, the editor gave his own notions of the number of circuits or wires to be employed, I always having determined to accomplish the object with a *single circuit.*

Up to the autumn of 1837, my telegraphic apparatus existed in so rude a form, that I felt a reluctance to have it seen.

My means were very limited—so limited as to preclude the possibility of constructing an apparatus of such mechanical finish as to warrant my success in venturing upon its public exhibition. I had no wish to expose to ridicule the representative of so many hours of laborious thought. Prior to the summer of 1837, at which time Mr. Vail's attention became attracted to my telegraph, I depended upon my pencil for subsistence. Indeed, so straitened were my circumstances, that in order to save time to carry out my invention, and to economize my scanty means, I had for many months lodged and eaten in my studio, procuring my food in small quantities from some grocery and preparing it myself. To conceal from my friends the stinted manner in which I lived, I was in the habit of bringing my food to my room in the evenings, and this was my mode of life for several years.

In 1836, and the early part of 1837, I directed my experiments mainly to modifications of the marking apparatus, contrivances for using fountain pens, marking with a hard point through pentagraphic or blackened paper, varying the modes of using and moving the paper, at one time on a revolving disc spirally from the center, at another on a cylinder, by which means a large, ordinary sheet of paper might be so written upon that it could be read as a common place book and bound for reference in volumes; and in devising modes of marking upon chemically-prepared paper. As my means and the duties of my profession would admit, the spring and autumn of 1837 were employed in improving the instrument, varying the mode of writing, experimenting with plumbago and various kinds of ink or coloring matter, substituting a pen for a pencil, and devising a mode of writing on a whole sheet of paper instead of on a strip or ribbon; and in the latter part of August or the beginning of September of that year, the instrument was shown in the cabinet of the University to numerous visitors, operating through a circle of 1700 feet of wire running back and forth in that room.

I had already presented to Professor Gale an interest in my invention, for the aid he had afforded me and should afford me in my experiments; and for the same consideration I obtained from Messrs. George and Alfred Vail, of New Jersey, in the fall of 1837, the materials and labor for experiments on a larger scale.

On the 27th of September, 1837, I addressed a letter to the Hon. Levi Woodbury, then Secretary of the Treasury of the United States, in reply to a circular from the Treasury Department, upon the subject of Telegraphs, giving him an account of my invention, and of my successful experiments thus far; and on the 28th day of November I reported to him my further progress, in another letter. Copies of these letters, believed by me to be true, may be found in Mr. Vail's work upon the electro-magnetic telegraph, pages 69 to 74, inclusive. In Silliman's Journal, for October, 1837, some of the results of my experiments were announced; and that article was copied into the Journal of the Franklin Institute for

November, 1837, and into the London Mechanics' Magazine for February, 1838.

In the latter part of the year 1837, the new instrument intended for exhibition in Washington was completed, and about ten miles of wire procured, all insulated and wound upon two reels. The instrument was exhibited in the Hall of the Franklin Institute, at Philadelphia, on its way to Washington, operating with perfect success through ten miles of insulated wire. A committee was appointed to examine it, a copy of whose report may be found, in part, in Vail's book, before referred to, pages 79 and 80, inclusive. Thence the instrument was removed to Washington, where it was exhibited in successful operation to a multitude of persons, among whom were the President, the Cabinet, and members of the Senate and House of Representatives. It was exhibited in the room of the Committee of Commerce of the House, until nearly the end of the session. That Committee made a favorable report of the invention, upon the 5th of April, 1838, recommending immediate steps to test its utility.

As early as the 4th of October, 1837, I sent a caveat to the patent office, for the purpose of securing the invention, and on or about the 7th of April, 1838, filed my specification, and made the application for a patent complete. At my own request, however, the issue of the patent was subsequently suspended, lest my applications for patents in the countries of Europe might be defeated by my invention becoming known.

In the month of May, 1838, in company with the Hon. F. O. J. Smith, who had become so well convinced and satisfied of the practicability and value of the invention that he abandoned his seat in Congress, and took an interest in it, I embarked for Europe. In France I procured a patent, which, however, has proved to be of no value to me, partly because of my inability to command the means to bring the invention into public use in that country within two years (as required by the French law), after the date of the patent; but chiefly because of the refusal of the French government to allow the telegraph to be erected on the St. Germain railroad, as would have been in accordance with the wishes and petition of the Railroad Company.

In both England and France, but particularly in France, I was received with great attention by distinguished and scientific men, and my telegraph was generally admitted to be superior to any other invented. I communicated an abridged description of my invention, and exhibited the instrument in operation, to the French Academy of Sciences, at their session of the 10th of September, 1838; and it was published in the Weekly Journal of the Academy, called the "Comptes Rendus," a few days after. That description, however, did not include the Local Circuit or Receiving Magnet.

M. Arago, the celebrated savan, took a peculiar interest in my invention. In March, 1839, I returned to the United States, having derived no pecuniary benefit whatever from my visit to Europe. General pecuniary embarrassment in the United States at that time, rendered hopeless any attempt to bring my telegraph into use; and in order to procure the means of subsistence, I was obliged to resume my pencil, in conjunction with the practice of the Daguerreotype.

In June, 1840, I took out my first patent, based on the specification filed by me in April, 1838. Having found no other resource for bringing my invention into public use, on account of the heavy outlay of capital required, and the impossibility of inspiring confidence in results so extraordinary as were promised, I petitioned Congress for aid to bring out my invention, at the December session of 1842, supported by the strong testimonials of many scientific men.

Before the end of December a strong report was made by the Committee of Commerce in favor of the measure, accompanied by a bill appropriating $30,000 for the purpose of testing the practicability and utility of the system.

The appropriation was made, and after encountering and overcoming many difficulties, I had the satisfaction to witness the successful operation of my system of telegraphing, on a line of forty miles, from Washington City to Baltimore, in June, 1844, nearly twelve years from the date of my invention. I further state, that the combination of machinery in constructing my telegraph as put in operation in 1844, was different from that originally contemplated and described in my first patent in the following respects, viz: The combined circuits of my first patent, were the combination of two or more circuits as links in a main line for the purpose of renewing the power and propelling forward, indefinitely, the electric current, in such volume as to render the power more available at the distant point, and to charge an electro-magnet with sufficient magnetic force to work a register or move the lever of a relay magnet, suggested by the probability indicated by my own experiments and the experiments of scientific men, that sufficient magnetic power could not be obtained from the electric current through a very long circuit to make a mark of any sort. This difficulty the undersigned proposed to obviate by means of two or more shorter circuits, each with a battery, coupled together, and broken and closed by means of the same principle as the receiving magnet now used; these links of one main line to be made so short as to secure the necessary magnetic power.

The register was to be placed, not in a short circuit, as now arranged, but on a link in the main line. But this arrangement was liable to the practical inconvenience that it would always require two lines of wire, both always in order; because the receiving magnet would work only in one direction.

While preparing to build the line from Washington to Baltimore, I ascertained, by experiment on 160 miles of insulated wire, and, some time previously, upon 33 miles of wire, that magnetic power sufficient to move a metallic lever could be obtained from the electric current on a circuit of indefinite length, and that there was no necessity for combining two or more circuits together *for the purpose of renewing the power at short intervals on the main line.* I then devised the present combination, which enables me to work the same wire both ways, dispensing with one of the two wires originally supposed to be necessary under all circumstances. This combination consists of one main circuit, connected by the receiving magnet with as many short office circuits as may be desired, upon which respectively are the requisite registers, and not upon the lines of the main line, as originally contemplated. Any of these office circuits may be separated from the main line without affecting its efficiency; whereas the breaking of a link in the chain of circuits originally contemplated would interrupt all communication. In that combination the battery at each station was to perform the double purpose of working the register and breaking and closing the next circuit in the main line.

In the present combination, the purpose of the battery on the main line is to close and break the short independent office circuit, which works the register. This new combination of parts was a most valuable improvement upon my first plan. A part of this improvement was used on the experimental line between Washington and Baltimore, for the first time, in May, 1844, and the whole of the improvements in the year 1846, on lines in the course of construction, in which I was interested as a joint owner.

The combination of circuits mentioned in my French patent of October, 1838, is the same as that mentioned in my American patent of 1840, and not that describedin my American patent of April 11th, 1846. After the successful result of the line from Washington to Baltimore, I did not doubt that Congress, at its next session, would adopt the telegraph as public property, and make provision for its extension.

In this expectation I was disappointed—no means looking to the adoption of the telegraph having been proposed, and a bill providing for its extension to New York, having been left among the unfinished business, not having passed either House.

About five years of the patent had now expired, and it was deemed proper to look to private enterprise, as the only certain means of making it valuable. With much difficulty, a company was organised in May, 1845, to build a line from New York to Washington, with a subscription of $15,000, which was applied to the construction of so much thereof, as lies between New York and Philadelphia. Soon after, a company was organised, and funds subscribed to build a line from New York through Albany to Buffalo, although these companies encountered many difficulties and losses. Having learned by experience, that copper wire, though the best conductor, cannot be relied on for strength, and being obliged to exchange it for iron, the public confidence in the utility and value of the telegraph increased as it progressed, and little difficulty was experienced in procuring funds to build lines on routes of any considerable importance, on terms of an equal partnership between the owners of the patent and the subscribers of funds—the patent privileges being considered equal in value to the cost of construction. Lines have been built substantially on these terms along the Atlantic coast, from Boston to New Orleans, and from New York to Buffalo, and more recently many other lines have been constructed, upon all of which my invention is now in full operation—my patented invention, as described by me in my first and second patents. The capital invested in said lines will be not less than $400,000, exclusive of the patent right. The owners of the patent have realized but little cash from these lines, having a property therein represented by stock, in sundry joint stock companies, or the right thereto, little of which has been sold.

Several hundred miles of line have been sold for cash, producing upwards of $30,000 to the owners of the patent, and many more are under contract. I further state, that I believe myself to be the first and original inventor of the American electro-magnetic telegraph, as described in my first patent, bearing date the 20th day of June, 1840—re-issued on the 13th day of January, 1846—again re-issued on the 13th day of June, 1848; and my second patent, bearing date the 11th day of April, 1846, and re-issued on the 13th day of June, 1848; and also of an improvement in electric telegraphs, as claimed in my letters patent, bearing date May 1st, 1849; and that the re-issues are for the same invention as described in the original patents respectively, of which they were re-issues.

I would further state, that from the mysterious nature and power which is the efficient agent in producing the great result, that power may be exhibited in an almost infinite variety of forms, and sometimes in so intricate and complicated a manner, as not to be traced without much study and patience. This very peculiarity renders it, therefore, comparatively easy to mystify its action by complicated contrivances, and also to conceal, in a great degree, the actual similarity or dissimilarity of power, process, and results, under a seeming, and only seeming difference.

The great end to be attained in the invention of the undersigned, as is clearly set forth in his letters patent, is the recording or imprinting of characters, as signs of intelligence at a distance. The power employed is that of galvanism, in any of its known modes of production. The power, therefore, is this form of electricity. The result or end is the recording or imprinting of characters at a distance in a permanent manner, and by representing them by sounds. The manner in which I use this power to produce this result is exhibited in my machinery and in my mode of operation. In its present practical form it consists of the following parts: a main or long circuit of wire, which is extended between any two or more distant places, and through which main circuit the electric current from any battery or generator of electricity is made to act at pleasure, through two helices around two cores of soft iron, making an electro-magnet, which attracting an armature attached to a lever or its equivalent, produces motion in such lever or its equivalent, either to act directly in marking upon paper or other suitable material at practicable distances, or indirectly by touching off, so to speak, a second or short circuit, and as many local circuits along the line as may be desired, each containing a battery, which imparts power sufficient to accomplish the great result, to wit.: to mark or imprint characters at a distance, *and* to do this at as many places along the line, at the same time, as may be desired.

The resistance to be overcome is the slight vis inertiæ of a delicate armature upon a balanced lever and a delicate spring. The lever breaks and closes by the power thus exerted by the secondary or short circuit. The short circuit operates directly upon the register, which is an instrument of clock-work for carrying paper, so that the paper while in motion is marked on by a pen or stile in contact with it, and thus forming on it the dots and lines specially and peculiarly adapted and applied to the purpose.

And I further say, that during my passage in the ship Sully, in the year 1832, I conceived and proposed at least three ways to make my said signs for telegraphing. *First:* by passing an electric spark through dry paper and thereby puncturing it, in which case the broken parts of the circuit were not to come in contact with the paper. *Second:* by electro-chemical decomposition, which was to have the paper moistened with a solution of a salt easily decomposable by electricity, and the broken parts of the circuit of conductors to come in contact with the paper. *Third:* by the motive power of electro-magnetism. By reflection and study on the first mode, I came to the opinion that it would not answer.

I then turned my mind to the second mode, which by the use of moist paper afforded a partial conductor to obviate the anticipated difficulty in the first; and it occurred to me that even the interposition of the moistened paper might be avoided by barely bringing the paper in contact with the conducting wire. This latter idea, to wit, by electro-chemical decomposition, was the most favorite one with me on board the ship, and for some time after; for I had at that time an indefinite recollection, from recurring to my college studies, that there was a class of salts easily decomposable by a current of electricity; and on learning that the sulphate of soda belonged to that class, I proposed to use that salt in the following manner, to wit: paper colored with turmeric was to be moistened in a solution of Glauber's salts (sulph. soda)—the paper thus prepared was to be made to pass by clock-work in contact with the conducting wire of a circuit. I was under the idea at that time that the simple contact with the wire through which the electricity was passing, might so affect the salt as to discolor the paper. This was my first idea. My second was to make the paper chemically prepared to pass between and in contact with the two divided parts or points of a circuit connecting the two poles of a galvanic battery or other generator of electricity. Then if at any other point of the circuit there was another broken or divided part, I assumed the following operation would take place:

When the prepared paper was made to move slowly in contact with the wire, or between the two first mentioned divided parts of the circuit, I presumed that while the other divided points were open, the paper would pass without a change of color; but when they were closed, and a current of electricity was passing, I presumed the salt would be decomposed, and a reddish brown mark would be made upon the paper. This was wholly conceived and proposed by me, on my said passage. These modes were to be tested by experiments, after landing, as I had no means of experimenting on board the ship. It was not until the year 1834, however, that I had the opportunity of testing these modes, and of ascertaining the result by actual experiment. In the year 1834, I found, by experiment, that *simple contact* between the conducting wire of an unbroken closed circuit and the chemically prepared paper was not sufficient to color the paper; while the interposition of the paper between the two broken parts of a closed circuit, so that the electricity having been made to pass through the prepared paper, the colored marks necessary for the purpose of marking my telegraphic signs were successfully accomplished in a rude manner. In the latter part of the year 1835, soon after occupying my rooms in the New York City University, I repeated this experiment, among others, and with success; and, by the use of my telegraphic apparatus then constructed, I made and showed my telegraphic characters, distinctly marked by electro-chemical decomposition upon paper. But at this time I had matured in my mind the electro-magnetic mode of marking, and laid aside the electro-chemical mode, which, although I had put in operation and proved practicable, was deemed by me far less eligible than the electro-magnetic mode. In 1846, finding that attempts were rife to start some telegraph under pretence of its being different from mine, which was in successful operation in various parts of the country, I returned to my electro-chemical mode; and, although I considered it less eligible, it being still practicable, and unless secured to me, as I considered of right it should be, since I was its first inventor, I reproduced, in the spring and summer of 1846, the same result as in the years 1834, and 1835, and entered a caveat at the patent-office for the same in January, 1847, and completed my application for a patent in January, 1848.

To the *tenth* interrogatory on the part of the complainants, he answers as follows: On the 27th of January, 1847, I entered a caveat in the Patent office of the United States for my said improvement specified in my patent of 1849; that on the 20th day January, 1848, I made application in due form for a patent thereof; that my application was declared by the Commissioner of Patents to interfere with an application of Alexander Bain; that on a hearing had thereupon the Commissioner decided in my favor on the question of priority of invention; that an appeal was then taken to the Honorable Judge Cranch, who decided that the application did not interfere so as to bar the rights of either to a patent, and ordered a patent to issue to both said Bain and to myself, which was done, and that the date of my patent was made later than the date of the patent of said Bain in consequence of the return by the Commissioner of my specification to be amended.

To the *eleventh* interrogatory on the part of the complainants, he answers as follows: Dr. Chas. T. Jackson did not, at any time, in any conversation between us, inform me of any one or more modes by which a magnetic telegraph of any kind, or any other telegraph, could be constructed, nor did he give me any details of construction of such telegraph by words, drawing, writing, or by any other manner. I first learned that he entertained the idea of having given me any information that is embodied in my invention of the electro-magnetic telegraph, from his letter of September 10th, 1837, in answer to mine of August 28th 1837, in which I had informed him of the success of my telegraph, and requested his testimony to my having invented it on board the Sully; nor did he at any other time or place, give me any new idea either in chemistry, galvanic electricity, or electro-magnetism, or in the application of either to telegraphic purposes.

The only communication which he ever made to me on the subject was, that paper colored with turmeric and moistened with Glauber's salts would answer my purpose, and this was in answer to an inquiry of mine. On trial by me it did not answer my purpose, and consequently has not been applied, and was of no use to me in the invention and construction of my telegraph.

To the *twelfth* interrogatory on the part of the complainants, he answers as follows: There was a correspondence between Dr. Jackson and myself in relation to the invention, but the originals of Dr. Jackson's letters are attached to a deposition taken in a case in the Circuit Court of the United States in Ohio, and cannot be attached hereto. I have, however, attached to this deposition printed copies of this correspondence, which have been carefully compared by me with the originals, and have been found correct, upon which I have written my name together with the date of the taking of this deposition. I have annexed the same, and have marked them B. 1, B. 2, B. 3, B. 4, B. 5, and B. 6.

To the *thirteenth* interrogatory on the part of the complainants, he answers as follows: I have had correspondence with Captain Pell, of the ship Sully; with J. T. Fisher, Esq., of Philadelphia; with the Honorable W. C. Rives, and with Frederick Palmer, Esq., since 1832, respecting my invention. True copies of which, compared by me with the originals, and found to be correct, and to which I have placed my name and the date of the taking of this deposition, and annexed the same, marked C. 1, C. 2, C. 3, C. 4, C. 5, C. 6, C. 7, C. 8, C. 9, C. 10, C. 11, C. 12.

To the *fourteenth* interrogatory on the part of the complainants, he answers as follows: I am acquainted with Henry J. Rogers, the defendant. I became acquainted with him about the year 1842. He manifested a great interest in my invention, and a desire to understand it; and, after the successful establishment of the line from Washington to Baltimore, he desired to be employed in some office connected with its practical operation. He was taught everything relating to the management of the telegraph by Mr. Alfred Vail and myself.

He was appointed by me assistant superintendant of the electro-magnetic telegraph, in July, 1844, to take charge of the Baltimore terminus of the line between Washington and Baltimore. My intercourse with Mr. Rogers was such as would necessarily grow out of my position as superintendent, and his own as my assistant. In Mr. Rogers's case, however, it extended farther. I treated him as a friend, and confided in him unreservedly. When the appropriations for the experimental essay were exhausted, and the line was no longer sustained by the government, but became part of The Magnetic Telegraph Company's line from Washington to New York, Mr. Rogers was employed by that company, and my business transactions with Mr. Rogers individually, except through my agent, Mr. Amos Kendall, ceased. What business transactions since have been had, through my agent, with Mr. Rogers, I am not able to say, not having charged my memory with them, and the records being in the possession of Mr. Kendall, at Washington.

To the *fifteenth* interrogatory on the part of the complainants, he answers as follows: Inasmuch as the question of infringement is, as I understand it, a material question in this cause, it is proper for me to say that I have seen and examined a drawing of the telegraph line of the respondents. In this drawing which I have annexed to this deposition, marked D, and upon which I have written my name and the date of the taking of this deposition, the red lines represent the wires of the main circuit of conductors, and the green lines the wires composing the short office circuits at the respective stations. I understand the figures 1 to represent the electro-magnets placed in the main circuit, for the purpose of opening and closing the short office circuits. The figures 2 represent the keys with their adjusting buttons. Figures 3 the recording instruments. Figures 4 the magnets placed in the short office circuits for the purpose of telegraphing by sound. Figures five the shifting buttons, for changing the direction of the current from the call magnet to the recording instruments. Figure 6 the ground plates. Figure 7 the pen arms.

The batteries, in number, arrangement, and in their several connections, I believe to be correctly represented in the drawing as actually employed or working on the through and way wires. I understand the mode of recording to be as follows. The transmitting operator breaks and closes with his key 2 the main or the red circuit, and thus magnetizes and demagnetizes the series of electro-magnets 1, which, by means of armatures and reacting springs, open and close a series of short office or green circuits. A register in this green circuit is composed of clock work, rotating uniformly a metallic disc covered with chemical paper or paper saturated with an easily decomposable salt. When the short circuits are closed by the electro-magnets 1, and the galvanic current is transmitted through them, marks are produced upon the chemically-prepared paper at the points of the pens 7. The disc carrying the prepared paper is rotated uniformly under the point of the pen while the message is being received. The effect of this short galvanic circuit and clock-work register upon the chemically-prepared paper in such that the transmitting operator may produce dots and lines with pleasure upon the paper at one or many distant stations.

From the answer in this case and from other sources, I have learned the system of signs used by these respondents upon their line of telegraph. I believe that the use of their apparatus and the mode of using it and the use of these signs infringe upon my inventions and the rights professed to be secured to me by my letters-patent, in the following particulars at least: By using and exercising my art of imprinting at a distance characters for telegraphic purposes, by means of electro-magnetism. By using my art of employing distinguishable sounds produced at a distance by electro-magnetism, for telegraphic purposes. By using my process of telegraphing. By using my system of signs, consisting of dots and spaces and of dots, spaces and horizontal lines in combination, and representing numerals, letters, words, and sentences for telegraphic purposes. By using my said signs in combination with machinery, for recording them as signals for telegraphic purposes. By recording my said signs by a process and mechanism substantially like that invented and patented by me. By using one circuit to break and close another circuit to produce the requisite power to work a register at the distant place. By combining such circuits, substantially the same as those patented by me. By employing in a main circuit my devices called receiving magnets, in combination with short local independent circuits, having a register or arrangement of clock-work for the movement of the paper, substantially the same as patented by me. By employing short local circuits combined with a circuit or link of the main line by a receiving magnet, to record copies of messages at stations of the main line at the same time that the same is recorded at the station most distant from the operator. By employing a key in conjunction with electro-magnets, to close and break a series of circuits simultaneously to produce pulsations of the galvanic current in all of such circuits at the same time, and thereby recording copies of communications at many distant places at the same time. By employing a recording instrument composed of clock-wheels, cylinders and other apparatus for moving the material upon which the characters are recorded, and for recording them, substantially as patented by me.

By employing a uniform motion of the paper upon which the telegraphic characters are to be recorded, in conjunction with closing and breaking circuits of conductors at unequal determined intervals of time to record dots and lines for telegraphic purposes. By the combined use of closing and breaking circuits of conductors at unequal, determined intervals of time to record dots and lines for telegraphic purposes. By the combined use of closing and breaking circuits of conductors at unequal, determined intervals of time, and with the point of a stile or pen in contact with moving paper, tracing or marking the telegraphic characters while the circuit is closed. By employing the power of magnetism as the means of operating machinery to record signals upon paper and to produce distinguishable sounds for the purpose of telegraphic communication, substantially as in my patent. By employing and using in combination the generator of electricity, the circuit of conductors, the electro-magnet, the pen or stile for marking, and the machinery for sustaining and moving the paper and the key for closing and breaking the circuit, altogether constituting an apparatus or telegraphic machine, and by using the same for recording at distant places said telegraphic signals. By using a single circuit to represent my system of signs by means of the decomposing or coloring effects of electricity acting upon salts thus as a result of such decomposition, leave a mark upon paper or other markable material, and by using for that purpose substantially the machinery described and patented by me in 1849.

(Cross Interrogatories to Prof. Morse.)

The defendants, excepting to the competency of Samuel F. B. Morse as a witness, and to the competency, in evidence, of the correspondence called for in the twelfth and thirteenth interrogatories in chief, and not waiving exception to the same, file the following cross-interrogatories, to be exhibited to Samuel F. B. Morse, under the commission to Poughkeepsie in the State of New York.

First.—Were you not, at the filing the bill of complaint in this' cause, and are you not now a member of the Magnetic Telegraph Company, incorporated by the Legislature of Maryland? If you are not now a member of the said Company, when did you cease to be so? When, where, to whom, and for what consideration did you transfer your interest in the same; and have you actually received such consideration, and if so, when, and from whom? Was such transfer absolute, or subject to any reservation or contingency? Was there any written contract made by you in regard to disposing of your interest in the said Company? If so, annex the same to your answer. Was such transfer made in writing? If so, where is the same? and annex the same, or a copy thereof, to your answer. What regulations do the Charter and By-Laws of the said Company prescribe for the transfer of stock therein? Were such regulations in all respects complied with by you in making such transfer?

Second.—Do you own any and what interest in your patents dated June 13th, 1848, being the re-issues of your patents dated June 20th, 1840, and April 11th, 1846, and in your patent dated May 1st, 1849? Have you sold any interest in the said patents, or any of them, and if so, when, to whom, and for what consideration, and how was such consideration paid? Do you own any and what stock in any Telegraphic Company or Companies? Have you sold and conveyed any stock in any such company or companies, and if so, when, to whom, and for what consideration?

Third.—Are you not under some and what obligation to defend to your assignees the title to the said patents, or some and which of them? Have you taken any part in the prosecution or preparation of this or any other cause in which the said patents or any of them are or is involved, by the employment of solicitors or counsel, or by the contribution of money, or by devoting any part of your time and services, and affording suggestions and information, or otherwise, for the preparation of this or any other cause in which your said patents, or any of them, are or is concerned? And what places have you visited with that object? Have you visited Philadelphia with reference to this suit on one or more occasions, and how often? Did you bear your own expenses on such occasions? If you were paid for your time and expenses on such visits, by whom, when, and where were you so paid, and did you give a receipt therefor? Did you not pay the expenses of taking testimony in the Boston suit of Smith *vs.* Downing, or some part thereof?

Fourth.—Speaking from your present recollection only, without aid from other sources, can you, after this lapse of time, undertake to say that Professor Day exhibited to you the illustrations referred to in the fourth direct interrogatory? Do you not infer only that they were so exhibited because they fell in the regular course of the Text-book used by the class, or is your information derived from any other person, and whom? Did you take any memoranda or notes of such illustrations?

Fifth.—Have you examined the lectures delivered by Professor Dana, in 1826 and 1827, since they were delivered? And can you undertake to say, without the aid of such examination, that the whole science of electro-magnetism was explained in those lectures? Give a minute description of the electro-magnet then exhibited. Can you state from your own personal knowledge, without information from others, that the magnet you have since seen is the identical magnet exhibited by Professor Dana in his lectures? Had it any marks to individualize it?

Sixth.—Who prepared for you, or assisted you in preparing, the necessary papers for obtaining your several patents above mentioned?

Seventh.—Was a description of your telegraph printed in the New York Observer, on the 15th April, 1837? Annex a true copy of such description. Were you not employed a great deal in the year 1837, in making experiments with your telegraphic apparatus? Was an account of your invention or experiments, or both, published in the Journal of Commerce, on the 27th April, 1837? Annex a true copy of such publication. Was a description of your invention published in Silliman's Journal, in October, 1837? Was not the same copied into the Journal of the Franklin Institute, in November, 1837?

Eighth.—Did you file a caveat for your said invention? If so, when, and who drew it for you? At what time in 1838 did you apply for your first patent? Did you afterwards request the Commissioner of Patents not to issue a patent until you further directed him, and when did you afterwards direct him to issue such patent? When did you actually swear to the application on which your said first patent was issued?

Ninth.—Did you on or about the 18th day of August, 1838, obtain from the Government of France, a patent for your telegraphic invention? Where is that patent, and who has the possession or control of it? Has the written description been separated from the drawings, and if so, for what purpose? Did you on or about the 10th September, 1838, communicate a description of your invention to the French Academy of Arts and Sciences; and was the same afterwards published in the Comptes Rendus? Annex a true copy of that publication to your answer.

Tenth.—Did you superintend the erection of the telegraphic line between Washington and Baltimore? Was it not proposed by you, and attempted to conduct the telegraphic wires in leaden pipes under ground, and how many miles of wire were so laid? Did this attempt fail? What portion of the $30,000 appropriated by Congress was expended in placing or preparing to place the said wires under ground? Who owns the telegraphic line between Washington and Baltimore at this time, and by what title is it held?

Eleventh.—Who were your assistants in the construction of the said line from Washington to Baltimore, and what salary did each of them receive for his services? Was the defendant, Henry J. Rogers, ever in your personal employment, and paid by you out of your own money; and if so, when, where, and what sum of money was he so paid? Was not the money you paid him, a part of the $30,000 appropriated by Congress to enable you to test the improvement you claimed? Was any other appropriation made by Congress in relation to the telegraph; and if so, for what amount, and what was done with the same? Did you not receive a salary out of the said appropriations, and for what time; and did you not go to Europe, and if so, when, and for what purpose; and receive pay for your time or expenses, or both, out of the said appropriations? Who employed and sent you, and what business did you attend to while in Europe?

Twelfth.—When did you prepare to construct the telegraphic line between Washington and Baltimore, and how long were you engaged in its construction? When did you invent what you call your local circuit? Have you not testified that you did not invent the same before you were engaged in the construction of the line between Washington and Baltimore? When was it first used on that experimental line; and when was it first used on any other, and what lines of telegraph? Was it not used on the line between New York and Washington, and between Philadelphia and Pittsburgh, before the date of your application for a patent therefor, and before such patent was issued; and if so, when and how long before such date and issuing of patent?

Thirteenth.—Please describe particularly the large receiving magnet used by you on the line between Washington and Baltimore, before you went to Europe commissioned by the Government, stating the size and length of the wire composing the helices thereof and the size and the weight of the iron bars within the same. Also describe particularly the small receiving magnet used now on the Morse lines of telegraph, stating the size and length of the wire composing the helices, and the size and weight of the iron bars within the same; and when such small receiving magnet was first used.

Fourteenth.—After the decision of Chief Justice Cranch on the appeal from the decision of the Commissioner of Patents in the matter of the interference between you and Alexander Bain, on your respective applications for patents for certain improvements in electric telegraphs, was your specification, which was before the said judge, on said appeal, taken from the files of the patent office and sent to you? Did you make red marks and letters on the same? Did you return it with such red marks and letters? and for what purpose were they made? Was not your specification wholly rewritten after said decision of the said Judge, and before your patent was issued? and was not your patent of May 1st, 1849, issued with such altered and amended specification?

Fifteenth.—Do you claim to have invented the electro-magnet?

Sixteenth.—Do you claim to have discovered that an electro-magnet will attract an armature of iron or steel?

Seventeenth.—Do you claim to have been the first inventor of the combination of an electro-magnet with a circuit of conductors?

Eighteenth.—Do you claim to have first discovered that the breaking and closing of an electric or galvanic circuit, having within it a generator of electricity or galvanism, will cause an alternate flow and cessation of a current of electricity or galvanism?

Nineteenth.—Do you mean to say that you were the first to discover that when an electro-magnet is connected with and forms a part of such circuit, the magnet will be made attractive and non-attractive, as the current flows or ceases to flow?

Twentieth.—Do you mean to say that you were the first inventor of the combining an electro-magnet and an armature in a circuit of electric or galvanic conductors?

Twenty-first.—Do you claim to be the first inventor of the method of suspending conductors upon posts or other suitable supports?

Twenty-second.—Do you claim to have been the first to discover that the ground is capable of forming a part of an electric or galvanic circuit?

Twenty-third.—Do you mean to say that you are the first inventor of an apparatus consisting of the following parts, to wit: a galvanic battery, or other generator of electricity or galvanism; a metallic circuit of electric or galvanic conductors, an electro-magnet with an armature and a device for closing and breaking such circuit? Did you invent this combination, or either or any of its parts?

Twenty-fourth.—Do you mean to say that you first invented the finger key now used in telegraphing? If so, when and where did you invent the same?

Twenty-fifth.—Do you mean to say that you first invented the metallic stylus, and the chemical paper, and the metallic springs described in said Bain's patent of April 17th, 1849, or any of them? If so, when and where did you invent the same?

Twenty-sixth.—Do you mean to say that you first invented clockwork, used to move paper in telegraphing?

Twenty-seventh.—Do you claim to be the first who applied the decomposing effects of electricity to making marks upon paper or other material chemically prepared?

McCALL, *Solicitor for Def'ts.*

ANSWERS TO CROSS-INTERROGATORIES.

To the *first* cross-interrogatory on the part of the respondents, he answers as follows: At the time of the filing of the bill of complaint in this cause, I was stockholder in that Magnetic Telegraph Company. I am not now a member of said company, and have no interest whatever therein. I have no interest whatever in the event of this suit, saving and excepting in such bearing as it may have upon the interest, which in common with many others, I have, as a stockholder in other telegraph lines. I ceased to be a member of said company about the month of October, 1850—the more precise date I do not remember. At that time I visited Washington, and then and there sold and transferred all my stock and interest therein, to the Hon. Amos Kendall, and received in pay and consideration thereof, my new scrip, an equivalent amount of stock in another line. The mutual transfer has taken place, and I have actually received the stipulated consideration. Such transfer was absolute, subject to neither reservation nor contingency. There was no written contract made by me in regard to the disposal of my interest in the said company. The transfer was, as I suppose, as is customary, made upon the books of said company. I have not a copy of such transfer, and therefore cannot annex the same. The charter of said company contains no regulation for the transfer of stock therein. I have no copy of the By-Laws of said company; but I have no doubt that the regulations for the transfer of stock, contained therein, were in all respects complied with by me, and that said transfer was, in all respects, legally correct.

To the *second* cross-interrogatory on the part of the respondents, he answers as follows: In my patents of June 13th, 1838, and of May 1st, 1849, I own absolutely five-sixteenths,—that is to say, I own ten-sixteenths, subject to a contingency, whereby another may become entitled to one-half of that interest. I own, however, no interest in the use of my invention between Washington and New York. I resigned to Professor L. D. Gale, for a consideration of time and services given and to be given by him, one-sixteenth of the patent rights on all my patents taken and to be taken for the telegraph. The date of said assignment I do not remember, but it is recorded at the Patent Office.

On the fifth of September, 1844, I assigned to Alfred Vail, for a consideration of time, money, and services given and to be given by him, two-sixteenths of the patent rights on all my patents taken and to be taken for the telegraph—said assignment is on record at the patent office. Prior to this, under date of — March, 1838, I assigned to F. O. J. Smith, for a consideration of time, money, and services given and to be given by him, four sixteenths of the patent rights on all my patents to be taken for the telegraph—said assignment is on record at the patent office. All the considerations of these assignments have been paid and rendered. The amounts of the pecuniary part of the considerations in the assignments to Vail and Smith, I do not now recollect.

I own stock in several Telegraphic Companies, to wit: in the New Orleans and Washington Company, stock of the nominal value of about $120,000—in the New York, Albany and Buffalo Company, stock of the nominal value of about $33,000—in the Sandusky and Cincinnati line, stock of the nominal value of $4,500—in the Maine Telegraph line, stock of the nominal value of $3,750—in the St. Louis and New Orleans line I have stock of the nominal value of $12,650—in the Western Telegraph Company, stock of the nominal value of $9,300.

I have sold and conveyed stock in several telegraph companies. I sold some, three years ago, to the President of the New York, Albany and Buffalo Telegraphic Company, at par value, $2000 of said company's stock. I sold to Mrs. Miller, of Utica, some $5,000 of the same stock, at par value, payable in 10 years, in annual installments. I made a gift of $5,000 in scrip of the New Orleans and Washington Company, to aid in building a Presbyterian church in Poughkeepsie. A small amount of scrip, in what company I do not recollect, to aid a Baptist church. Another small amount to aid, if I remember rightly, a Methodist church. Another small amount, I think, to the American Temperance Union. Another small amount to the American Tract Society. Another to the American Christian Union. Of the New Orleans Company, stock of the nominal value of $10,000, to my daughter, and to my son, upon his marriage, $5,000 of stock in The Magnetic Telegraph Company.

These are all that occur to my memory. My agent has the exact amount. The Honorable Amos Kendall is my agent.

To the *third* cross-interrogatory on the part of the respondents, he answers as follows: I am not under any obligation to my assignees to defend the title to any of the said patents. I have taken part in the preparation of causes in which some of the said patents are involved, and in the prosecution thereof, by the employment of counsel and solicitors, and the contribution of money and the devotion of a part of my time and services, and by affording suggestions and information for the preparation of said causes. I visited Frankfort, Kentucky, for this purpose, in a suit instituted by myself and others, as complainants, against Henry O'Reilly and others, defendants. I visited Boston, also, in the suit of F. O. J. Smith and others, against H. Downing and others, being summoned as a witness, and so far aided in the preparation of the cause as to give my testimony. I visited Philadelphia once in reference to this suit, being requested to do so as a witness, and am aiding in the preparation of this cause so far as to give my testimony in answer to certain interrogatories and cross-interrogatories, forming part of commission issuing from the Circuit Court of the United States for the Third Circuit in said suit, and no further. I did not bear the expenses of my said visit to Philadelphia. They were paid by the complainants in this suit.

The expenses of my visit to Boston, as a witness in the suit there, have been paid by me, and have not yet been refunded to me. In my visit to Frankfort, Kentucky, I paid my own expenses, and was one of the parties in the suit there.

I did not pay the expenses of taking testimony in the Boston suit of Smith *vs.* Downing, excepting the traveling expenses of one witness, whose testimony I deemed important to be had as to certain facts, to protect me against slanderous inferences which I thought were sought to be made against my integrity.

To the *fourth* cross-interrogatory on the part of the respondents, he answers as follows: The experiments in question, together with many others, were of a nature to make a lasting impression. These and many others of Professor Day's experiments at that time I recall with perfect distinctness, without my memory being refreshed from the text book of any other source. I have no special recollection of having made any written memoranda of the experiments in question, but if I did, they are lost.

To the *fifth* cross-interrogatory on the part of the respondents, he answers as follows: I have examined the manuscript lectures delivered by Professor Dana, in 1826 and 1827, since they were delivered. I examined them in September, 1849, and I can therefore say, as well from my examination of the manuscript as from my own memory, that the science of electro-magnetism in all its essential features, so far as the same had been promulgated, together with some contributions of Professor Dana's, was explained in those lectures. The electro-magnet exhibited at his lectures, by Prof. Dana, was a round bar of soft iron, about nine inches in length, and one-half or three-quarters of an inch in thickness, bent in the form of a horse-shoe, and varnished, around which was wound a coil of copper wire, making some thirty turns. This magnet was described by me, in all its essential prominent particulars, after the lapse of a period of more than twenty years from the time of its exhibition by Professor Dana, to several individuals, for the purpose of ascertaining if it was in existence. These persons were Benjamin Pike, Jr., optician; James R. Chilton, chemist, and Professor John Torrey, the latter of whom purchased the apparatus of Professor Dana, and recognized the said magnet from my description of it. My description varied in stating the characteristics of the original magnet, only in the color of the varnish with which it is coated, a mistake easily accounted for from the fact of much of the apparatus of Professor Dana being covered with red sealing wax, while some was covered with black. When shown to me, I recognized it as the one exhibited by Professor Dana, and have not the least doubt of its being the identical magnet used by him in the experiments at his lectures. I can have no reason to believe that Professor Torrey deceived himself or intended to deceive me, especially as he could not have been aware of my object in wishing to possess it. I annex a copy of Professor Torrey's letter to me, and accompanying the gift of said magnet, which copy I have compared with the original letter, and found to be correct, and have written upon the same my name, together with the date of the taking of this deposition, and have marked it E. The magnet had no special marks to individualize it.

To the *sixth* cross-interrogatory on the part of the respondents, he answers as follows: F. O. J. Smith, Esq., assisted me in preparing the first patent of 1840. Mr. Robbins, Patent Agent, assisted me in preparing the re-issue of my first patent of 1840. In the first re-issue of the same, of April 11th, 1846, I was assisted by Messrs. Keller and Greenough, patent agents; and in the re-issue of 1848, I was assisted by Mr. Robbins, patent agent, and Mr. Kendall, my agent. In the patent of May 1st, 1849, I was assisted by Mr. Kendall.

To the *seventh* cross-interrogatory on the part of the respondents, he answers as follows: No description of my telegraph was printed in the New York Observer of April 15th, 1837. An article written by my brother, Sydney E. Morse, Esq., the editor of that paper, did appear in the number of said paper referred to, but said article did not give a description of my telegraph. I have annexed to this deposition a true copy of that article, upon which I have written my name, together with the date of the taking of this deposition, and have marked the same F.

No description of my invention appeared in the Journal of Commerce of April 27th, 1837; but a notice of my telegraph and discovery did appear in the number of that paper referred to, a true copy of which, compared by me with the original, and found to be correct, and to which I have placed my name, together with the date of the taking of this deposition, is hereunto annexed, marked G.

No description of my invention was published in Silliman's Journal in October, in 1837; but an article containing an account of some of the results of my invention, and of some of my experiments, did appear in the number of said journal referred to.

The same article also appeared in the Journal of the Franklin Institute for November, 1837.

I was employed a great deal, in the year 1837, in making experiments with my telegraphic apparatus.

To the *eighth* cross interrogatory on the part of the respondents, he answers as follows: I did file a caveat for said invention At this distance of time, I cannot say who assisted me in drawing the same. It was filed October 6th, 1837.

My application for my first patent was dated April 5th, 1838. Being desirous of obtaining patents in Europe, and learning that the issues of my letters patent here would interfere and prevent my obtaining them abroad, I did request the Commissioner of Patents to delay the issue of my letters patent here. Not being acquainted with the formalities of the Patent Office, I perhaps did not after the usual forms direct the Commissioner to issue my letters patent. I addressed to him, however, a letter under date of May 2d, 1840, a true copy of which, compared by me with the original and found to be correct, and to which I have placed my name together with the date of the taking of this deposition, I have annexed, marked H. 1, H. 2, H. 3. There were two oaths—one made by me prior to the 10th of April, 1838, and under date —— day of ——, 1838, before C. H. Wiltberger, Justice of the Peace of Washington county, D. C., the other under date of May 29th, 1840, before Isaac T. Varian, the Mayor of New York. I cannot say upon which of these two affidavits my patent was issued.

To the *ninth* cross-interrogatory on the part of the respondents, he answers as follows: I did, on or about the 18th of August, 1838, obtain from the Government of France a patent for my telegraphic invention. To the best of my knowledge, said patent is on file in the Clerk's Office of the Circuit Court of the United States for Kentucky, at Frankfort, Kentucky. The French patent was for my invention patented in this country in 1840. I am not aware that the written description has been separated from the drawings. I did, on or about the 10th day of September, 1838, communicate an abridged description of the invention contained in my patent of 1840 to the French Academy. The same was afterwards published in the Comptes Rendus, a true copy of which publication, compared by me with the original and found to be correct, and to which I have placed my name, together with the date of the taking of this deposition, I have annexed, marked I. 1, I. 2, I. 3, I. 4.

To the *tenth* cross-interrogatory on the part of the respondents, he answers as follows: I did superintend the erection of the Magnetic Telegraph Line between Washington and Baltimore. I did propose and make arrangements to conduct the telegraphic wires in leaden pipes under ground. About nine miles of wire were so laid. Said attempt did fail principally because of the defective insulation of the wires, the covering of the same having been injured in their introduction into the leaden pipes. I do not recollect the sum thus expended. I have not made an estimate of it apart from the other expenses of the experimental essay. I would remark, that notwithstanding the failure of this attempt, the sum appropriated by Congress was more than sufficient to cover all the expenses of the essay, for which it was intended, and to sustain it for nearly a year after its completion. There are two telegraphic lines between Washington and Baltimore, One is owned by the Magnetic Telegraph Company. It holds by title under my patent.

To the *eleventh* cross-interrogatory on the part of the respondents, he answers as follows: My assistants in the construction of the said line, were Professor Leonard D. Gale, at a salary of $1,500 per annum, Professor James C. Fisher, at a salary of $1,500 per annum, Alfred Vail, at a salary of $1,000 per annum. After the retirement of Professor Fisher, in Dec., 1843, Ezra Cornell was appointed mechanical assistant, at a salary of $1,000 per annum. The defendant, H. J. Rogers, was appointed by me, July 10th, 1844, to take charge of the Washington or Baltimore terminus of the line, at an allowance of two dollars and fifty cents per diem, which appointment was confirmed by the Secretary of the Treasury. During his employment under me, while I was superintendent of telegraphs under an appointment from the United States, he received his allowance from the government appropriations for the experimental essay. Another appropriation of $8,000 was made by Congress to sustain the telegraph, and was expended on said telegraph. I received a salary from the appropriation from about the 10th of March, 1843, to the middle of 1846.

I have been to Europe several times. I went in 1811, to study my profession—again in 1829 for the same purpose—again in 1838 to procure patents for my inventions—and again in 1845, under a leave of absence from the Postmaster-General, my salary being allowed, to ascertain whether any system of electric telegraphs recently adopted there, possessed any advantages over the American. I bore my own traveling and accidental expenses, intending to look after the introduction of my telegraph into Russia, as part of my private business.

To the *twelfth* cross-interrogatory on the part of the complainants, he answers as follows: About the 10th of March, 1843, I prepared for the construction of the telegraph line, and completed it in the beginning of June, 1844.

The phrase local circuits refers rather to the relative arrangement of circuits than to a circle having in itself special distinctive peculiarities.

If by the question is sought the date of my invention of breaking and closing one circuit by another, I answer in 1836. I exhibited the same in operation in the spring of 1837. If by the question is sought the date of my invention of a short circuit to be used at the extremities of the line, I answer in May of 1844. If by the question is sought the date of my invention of a still greater improvement, to wit: that of placing short circuits on the margin (so to speak) of the main line, all of them to be operated simultaneously, I answer that the idea of such an improvement first presented itself to my mind in the beginning of the year 1844. I have always intended to give the same account of the time of making and perfecting my invention in my previous depositions as in this. The short circuits at the extremities were never practically used until I was engaged in the construction of the line referred to, and the lateral circuits were used at the time I have stated, at which time it became necessary to obtain drop copies. I may, therefore, although I do not recollect so to have done, have stated that they were invented at the time referred to in the interrogatory.

The short circuits at the extremity of the main line were first used on the line between Washington and Baltimore in May, 1844. The lateral circuits were first used on the line to Philadelphia, as above stated, soon after the conductors were laid. These have been since used upon the following lines, to wit:—

The Washington and N. Orleans
" Washington and N. York.
" Philadelphia and Pottsville.
" New York and Boston.
" Boston and Portland.
" Portland and Calais.
" Calais and Halifax.
" Boston and Newburyport.
" Worcester and New Bedford.
" Worcester and New London.
" Wilmington and Lewes.
" Baltimore and Harrisburg.
" Baltimore and Wheeling.
" New York and Buffalo.
" Bridgeport and Bennington.
" Troy and Montreal.
" Troy and Whitehall.
" Toronto and Queenston.
" Toronto and Quebec.
" Queenston and Buffalo.
" Auburn and Ithaca.
" Philadelphia and Pittsburg.

" Pittsburg and St. Louis.
" Louisville and St. Louis.
" St. Louis and Bloomington.
" New York and Fredonia.
" Buffalo and Milwaukie.
" Pittsburg and Cleveland and others.

The short circuits at the extremity of the main line were used on the line between New York and Washington, so far, at least, as between Baltimore and Washington, and I think, but am not certain, between Philadelphia and Pittsburg, before the date of my application for a patent therefor, and before such patent was issued.

I was then interested as a party in the construction of those lines, and in the use thereof, and was one of the owners of the same. I have before stated that the short circuits at the extremities of the line were first used in May of the year 1844, and the lateral circuits in the year 1846, on the line between Philadelphia and Baltimore. I have not before me copies of my applications for all my patents, and do not recollect the dates of all. The same, however, can be readily procured at the Patent Office. My first patent is dated June 20th, 1840, and my second patent April 11th, 1846.

To the *thirteenth* cross-interrogatory on the part of the respondents, he answers as follows: I am not aware that I ever went to Europe commissioned by the Government. At the time of my visit to Europe in August, 1845, I was superintendent of telegraphs. The large receiving magnet about which I am interrogated, was composed of two helices surrounding two cores of bars of soft iron; each core was about three-fourths of an inch in diameter, and about five inches in length,—the two weighing, without the helices, about three pounds. The helices which surrounded the cores were composed of about a mile of insulated copper wire on each, of the size known to commerce as No. 16, or 18. This magnet was furnished with an armature, lever, re-acting spring, and adjusting screws. When I visited Europe in 1845, I saw in the shop of a philosophical instrument maker in London, an electro-magnet, or cores of soft iron surrounded by helices of copper wire insulated, and of the size known in commerce as No. 24. It occurred to me that the employment of wire of this latter number in the construction of my receiving magnets would make them of a less, and therefore, more convenient size. I accordingly procured afterwards in Paris four cores wound with this fine wire, and on my return I fitted them up with an armature, lever, re-acting spring, and adjusting screws, and substituted them for my larger magnets for the only reasons that they were more convenient and less costly. These smaller cores and helices differed from the former only in size, and the receiving magnets thus made, were first substituted for the large ones on the line in the winter of 1846, 1847. Those now used are of this character. The weight of the two iron bars within the same, is about four ounces.

To the *fourteenth* cross-interrogatory on the part of the respondents, he answers as follows: Yes. My specifications were returned to me after the decision of Judge Cranch. I made red marks and letters for reference thereon, to satisfy the requisition of the Commissioner of Patents. I did return it with such red marks and letters to the Commissioner of Patents, for the purpose of complying with the requisition of said Commissioner. I do not know that my specification was rewritten after the decision of the said Judge, and before my patent was issued, but presume a fair copy was made; and my patent of May 1, 1849, was issued with such alterations so made, in accordance with the requisitions of the said Commissioner.

To the *fifteenth* cross-interrogatory on the part of the respondents, he answers as follows: I do not.

To the *sixteenth* cross-interrogatory on the part of the respondents he answers as follows: I do not.

To the *seventeenth* cross-interrogatory on the part of the respondents, he answers as follows: I do not.

To the *eighteenth* cross interrogatory on the part of the respondents, he answers as follows: I do not.

To the *nineteenth* cross-interrogatory on the part of the respondents, he answers as follows: I do not.

To the *twentieth* cross-interrogatory on the part of the respondents, he answers as follows: No, not generally in the abstract; but I do claim to be the first inventor of combining an electro-magnet and an armature, as described in my letters-patent, and of combining this combination with a circuit of electric or galvanic conductors.

To the *twenty-first* cross-interrogatory on the part of the respondents, he answers as follows: I do not. But I believe I was among the first, if not the very first, to suggest that method for telegraphic purposes.

To the *twenty-second* cross-interrogatory on the part of the respondents, he answers as follows: I do not. I believe Franklin to have been the first discoverer of that capability—so far, at least, as machine-electricity is concerned.

To the *twenty-third* cross-interrogatory on the part of the respondents, he answers as follows: I do not. I was not the inventor of this combination, generally, nor of any of its parts in the abstract; but I mean to say that I was the first inventor of the combination of those parts, as described in my patent and used in my telegraph.

To the *twenty-fourth* cross interrogatory on the part of the respondents, he answers as follows: I did first invent a lever with a sufficient spring, as a "finger-key," for regulating the marking of signs for telegraphing purposes. I ordered such a key to be made—and they were so made previous to August 19th, 1843; and I used it in Washington, previous to June, 1844. The phrase, "finger-key now used," is too indefinite to answer, understandingly, since the form of the key is different in different offices.

To the *twenty-fifth* cross-interrogatory on the part of the respondents, he answers as follows: I have not read the description in Bain's patent of 17th April, 1849, concerning which I am interrogated; but I do mean to say that metallic stiles of iron, brass, platinum, copper, and other metals, have each been used by me with success, at different times, in the city of New York, as early as 1835, in marking telegraphic characters on chemically prepared paper, by means of a galvanic current through a single circuit of conductors, and that I invented the same.

To the *twenty-sixth* cross-interrogatory on the part of the respondents, he answers as follows: Yes. To the best of my knowledge there was no clock-work used for moving paper for telegraphing before I invented and used it.

To the *twenty-seventh* cross-interrogatory on the part of the respondents, he answers as follows: I do not claim to be the first who applied the decomposing effects of electricity to making marks upon paper or other material, chemically prepared, for telegraphic purposes.

SAML. F. B. MORSE.

APPENDIX TO PROF. MORSE'S AFFIDAVIT

To be given in the next Magazine.

The length of the foregoing statement of Professor Morse, compels us to postpone the publication of the Appendix thereto, until the next number of the American Telegraph Magazine. We regret this necessity, as it would afford us pleasure to present the whole matter in one connection, were it compatible with other and unavoidable demands on our pages. The Appendix is replete with interesting papers illustrative of many important points which are briefly stated in the foregoing affidavit, wherein each paper is specifically referred to. The papers comprising the Appendix, are from many important and distinguished sources, and occupy about the same amount of space as the whole statement of Professor Morse given in the foregoing pages—and they will be given *at full length* in the number of the Telegraph Magazine for January.

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Letter from Professor Morse.

"Priority in the invention of the first recording Telegraph."

Many of our readers will concur with us in the satisfaction with which we receive from Professor MORSE the promise of information concerning the Origin and Progress of the "American Telegraph System," announced in the accompanying letter. It is scarcely necessary to say to those who have examined the numbers already published of this Magazine, that any contributions from a source so distinguished will have an impartial hearing through our pages—even though we may not, in *all* cases, be able to concur in *all* the positions of the Professor.

Truth fears no scrutiny: the more it is canvassed, the brighter it appears. While we invite and are thankful for communications from all quarters—provided always that those communications keep within the limits of legitimate discussion—we shall exercise for ourselves, the common right which we freely concede to others, of criticizing rigidly any points that may seem to require elucidation or confirmation.

The fidelity with which we aim to give all the essential facts in Telegraphic history, as shown in various articles already published, indicates our purpose to subject the claims of Professor Morse and all other inventors to the ordeal of historical truth; and with this clear understanding, we confess our satisfaction that our humble efforts in this new branch of journalism or literature have been already successful in securing such expressions of approbation as are reaching us from all quarters of the Union, from gentlemen connected with all lines and systems; from among which tokens of appreciation, we may be excused for occasionally selecting a letter like the following from Professor Morse.

Poughkeepsie, Nov. 24, 1852.

Donald Mann, Esq., Editor of the Telegraph Magazine.

Dear Sir—I have received and read your second number with great pleasure. I have found, to be sure, much erroneous statement, the source of which lies (back of all agency of yours) in the various documents and ex-parte evidence from the archives of the courts. I could correct these errors; and, without promising to correct all, I will yet, as I have time, furnish you with articles for that purpose.

I have an article nearly completed, which I think will settle the question of *priority in the invention of the First Recording Electric Telegraph.* It will be comprised in about ten pages of foolscap. I should like to have it by me till the latest moment before your publication, in expectation of a certified document from the West bearing on the subject. Please say when you should have the article, to be in time for your next issue.*

I do not see any reason why your magazine should not have a permanent position among the periodical literature of the world—quite as permanent as the Telegraph enterprise itself. I think you have been fortunate, in originating it just at the time when such a work is needed; and I most cordially wish it success. I have seen enough of the *animus* of the conductor of it, in the two numbers already issued, to feel confident in his disposition to be JUST and IMPARTIAL.

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* The article to which Professor Morse alludes, will be published in the January number of the American Telegraph Magazine.

In accordance with the terms of your publication, I herewith inclose payment for your magazine for one year.

With sincere good wishes,
Your friend and servant,
SAMUEL F. B. MORSE.

◆

Illinois and Mississippi Telegraph—Improvement in its Operations.

The inquiries occasionally made of us, and the law and facts stated in the November number of the Telegraph Magazine, concerning this great range of lines (for the Illinois and Mississippi Company own about eight hundred miles of Telegraph, extending over some of the most flourishing regions of America), induce us to believe that the following letter from the President will be read with interest, not only by many eastern stockholders, but by all citizens who are interested (and who are not interested more or less?) in promoting and improving the condition of the Telegraph system generally.

The importance and public character of the subjects mentioned by Judge Caton, the President, will doubtless excuse us for publishing his letter just as it was received by the gentleman to whom it was addressed:

Supreme Court Room, Mt. Vernon, Ill., Nov. 19.
Henry O'Rielly, Esq,

Dear Sir—I was obliged to go to St. Louis to superintend laying down our new crossing, before the time appointed for moving for judgment or decree for sale of non-paying stock, and did not get through in time to return home before the session of our court here. Hence that matter has been continued, and will not be acted upon before my return, say about the first of December; and I am now inclined to the opinion that I shall not ask for a sale before about the first of February.—This explains why you have not heard from me since my last.

Please express my obligations to Mr. Mann for selecting that Gutta Percha Wire for me. It proved of the best quality; and we now have an independent crossing, solely our own, and by far the best that has ever been laid down across the Mississippi river. Indeed, it is absolutely perfect—while the old crossing would only work across the river, where every thing had to be repeated, my line is now working with the most perfect regularity to Peru and Lasalle; and in fifteen days from this time I will have my repairs so far completed, that we shall work regularly from St. Louis to Chicago.

I have reduced every thing to a perfect system, which works with great regularity.

Yours, most truly, J. D. CATON.

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Important Telegraph Decision.

Samuel F. B. Morse, and Alfred Vail agst. F. O. J. Smith.

(From the N. Y. Evening Post.)

The defendant became an owner of one-fourth part of the Morse Patent, in 1838. The agreement between him and the owners of the residue was special, and contained various covenants on the part of each party. In 1845 the plaintiffs severally appointed Amos Kendall their attorney, to manage their interests in the telegraph and all matters connected therewith.

Difficulties having occurred between the parties in the management of their joint interests, several agreements were entered into between them on the 22d of June, 1847, commonly called the division contracts, by one of which the defendant was to have full and exclusive power to bargain, sell and convey any and all routes for the construction and use of Morse's Patents, and of all improvements thereon, not then sold, or placed under contract, in all the territory of the U. States bounded on the south by the route extending from Pittsburgh to St. Louis, *via* Wheeling, Columbus, Cincinnati and Louisville; thence to St. Louis, by any route the defendant should select, and on the west and north by the western and northern boundaries of Illinois, Wisconsin, Michigan and Ohio, and on the east by the eastern boundary of Ohio, to the intersection of the telegraph route from Wheeling to Columbus, opposite Wheeling; also all within the boundaries of New York and New England. The like power and authority was given to Mr. Kendall, to bargain, sell and convey any and all other routes, within all the remaining territory of the several States of the Union, then existing.

The contract prescribed the manner of disposing of such lines, of realizing payments therefor, and of accounting to each other for their portion of the proceeds.

Difficulties arose between the parties in relation to the accounts of each against the other under these contracts. The plaintiffs complained of the manner in which defendant had exercised the powers conferred by these contracts; of the terms on which he had authorized new routes to be constructed; of his allowing the patent to be used without first obtaining payment therefor; of his failure to perform covenants on his part contained in these contracts, and of various other matters enumerated in their complaint. The complaint prayed for a judgment, that the joint interest of the parties be severed and divided, by a just and equitable partition and division of territory; for an accounting, in reference to their joint dealings and transactions; that defendant be charged with three-fourths of certain amounts alleged to have been received by him for various enumerated telegraph lines constructed within the territory allotted to him; and for an injunction restraining him from collecting or receiving the amount due for the price of the patented invention on the New York and Erie line; or from taking any steps to subvert or invalidate the patent; or from making any further sale of plaintiff's interest in the patented invention, in any part of the territory assigned to him under the division contracts, or from exercising any further power under such contracts.

A temporary injunction, according to the prayer of the complaint, was issued when the suit was commenced, and this was a motion to continue it until the hearing. The very clear and able opinion of Judge Bosworth will be found in these columns.

In this statement we have not pretended to give any accurate idea of the various and particular frauds, or the abuse of power, alleged, or breaches of contracts charged; but a consideration of the matters assigned by the Court, in their reasons for denying an injunction, will enable the reader to better understand what points are decided, and their bearing on the controversy. The motion was heard on the complaint, and on answering and rebutting affidavits. These and other papers used on the argument, covered nearly two thousand printed pages, and related to all the transactions between the parties in relation to the telegraph, from the time the defendant became a part owner, and to almost every line of telegraph in the United States, constructed under their authority, or that of either of them.

◆

Superior Court.—Argued May Term, 1852. Before Sandford, Duer and Bosworth, J. J.

SAMUEL F. B. MORSE AND ALFRED VAIL agt. FRANCIS O. J. SMITH.

Decided Nov. 20, 1852. Justice Sandford died in July, 1852.

BY THE COURT—BOSWORTH, J.—The court is asked to enjoin the defendant from doing any further acts or exercising any further power under either of the contracts of the date of June 22, 1847, and also from collecting or receiving the amount due for the price of the patent on the line of telegraph from New York to Fredonia, commonly known as the New York and Erie Line.

Unless the court, in the proper exercise of its discretion, is called upon to restrain the defendant in these respects, the motion for an injunction should be denied, and the temporary injunction heretofore granted should be wholly dissolved.

For if enough is not shown to justify an interference of the court to prevent the defendant from acting further under the contracts of June 22, 1847, it would be improper to enjoin him from taking any steps to invalidate or subvert the patent, as such an act of the court would, by implication, impute to the defendant the existence of a purpose to act most disreputably towards his co-proprietors. This the court could not properly do, if it did not feel at liberty, on the case made by the papers used on this motion, to restrain him from acting further under the authority conferred by the division contracts.

One of these contracts gives to the defendant "full and exclusive power to bargain, sell, or convey any and all routes for the construction and use" of the patent, not then sold or placed under contract within a specified part of the United States, and to Amos Kendall, the agent of Morse & Vail, the like power within all the remaining territory of the several States of the Union existing. That contract, by its terms, was to continue in force six years from its date; it will expire by its limitation on the 22d of June, 1853.

It cannot be pretended that any misrepresentations are proved to have been made, or any fraud to have been practiced, by Smith, to induce the plaintiffs or their agent to enter into any of the contracts of the date of June 22d, 1847, signed by either of them, which would justify the court in rescinding them on the ground that the plaintiffs, or their agent, were induced to enter into either of them by the misrepresentations or fraud of Smith.

There is no just ground for holding that the defendant is not able to respond to the plaintiffs for the amount of any claim which they may be able to establish against him under either of those contracts, or under that by which he became a part owner of the patent.

If the defendant ought to be enjoined, in whole or in part, as prayed by the complaint, it is not in consequence of any fraud contemporaneous with the contracts of June 22d, 1847, which would of itself be sufficient to avoid them, but it must be for the reason that his subsequent conduct is a clear perversion and abuse of the powers which they confer upon him, or that his management of the joint interests in his own territory has been such as tends, and if continued will tend, to render ineffectual any judgment in favor of the plaintiffs for such relief as they would be entitled to upon the case made by the papers before us.

The two important matters which form the basis of the most grave complaints made against the defendant are the construction of the New York and Erie Telegraph Line, and his neglect to settle the O'Rielly controversy, and the motives and purposes imputed to him for his acts in the one case, and his omission to act in the other. Many other various acts and contracts of the defendant which are a subject of complaint, and charged to have been done with a fraudulent intent, are alleged to have been parts and parcel of a scheme of fraud, whose existence wholly depends upon the question whether the New York and Erie Line was as between those parties, wrongfully constructed, and, on the part of the defendant, with the grossly fraudulent purposes imputed to him.

The New York and Erie Line is charged to be a fraud on the plaintiffs, on the ground, as is alleged, that at the time of making the division contracts, the parties only contemplated in authorizing new lines, the construction of such as would be side lines, or lines tributary to those previously contracted, or contemplated as main arteries of communication, and that the defendant had authorized this to be constructed as a new main line, and with a view of drawing off from existing main-lines (in which the plaintiffs were large stockholders), their legitimate business, and taking it over lines of which the defendant was substantially the sole proprietor: and that by the terms of the contract for the building of this line, the defendant, on its completion, would become the owner of a large portion of its stock, while the plaintiffs would have no interest in it, and would only be benefited at the rate of $37 1-2 per mile, the price to be paid for interest in the patent.

The right of the defendant to authorize the construction of precisely such a line as this, or of so much of it as falls within the territory allotted to him, has never been denied, but has been at all times conceded, provided it was built as a side line, and under a contract, with proper provisions and stipulations, to secure its continued use as a side line.

It cannot be charged that there had been any thing secret or stealthy, on the part of the defendant, in making the contract for the continuation of this line, or that he has attempted to conceal its terms, or his purpose, from the outset, to make it a main artery of communication. The purpose to make it a great artery of western lines with the Atlantic cities, was publicly advertised as early as the 15th of August, 1847, and a copy of the published notice was communicated at the time, by the defendant, to Mr. Kendall.

Mr. Kendall, under date of August 23d, in his reply to the defendant's letter inclosing this notice, stated his opinion that the measures and policy proposed by defendant, might bring the O'Rielly concern to a pause, but remarked that it was his "duty to look at the possible consequences of some of them: If, in a fight with O'Rielly, the business appropriate to the direct line from *Philadelphia to St. Louis*, shall be diverted to other lines, depreciating the stock of the former, and you should *then propose to pay* my principals in that stock, it would be in violation of the equity of your contract with them. *In this view*, it is my duty to object to all such arrangements; besides, I doubt the policy of the announcement that the line along the Erie Railroad is to be a main line. Its tendency is to induce a coalition between Faxton and the O'Rielly concern; and I am not sure that it would be quite just to the *New York and Buffalo Company*, and would not involve you in difficulties with *them*."

This shows a purpose, openly avowed at the time by Smith, to make this a main line, and that this purpose was specially communicated to the agents of the plaintiffs. It also shows the precise ground of objection then taken on behalf of the plaintiffs. No objection was made that the parties to the division contracts contemplated the sale of side lines only, or that there was any legal or equitable impediment to its construction as a main line, but it was alleged that if it had the effect to draw off from the line, from Philadelphia to St. Louis, its legitimate business, and thus depreciate the value of the stock of the last named line, it would be inequitable to afterwards insist that the plaintiffs should receive such stock in payment, according to the terms of one of the division contracts.

To understand the point of this objection, as well as the merits of other matters controverted in this motion, it is proper to remark, that in June, 1838, all the owners of the patent entered into a contract with O'Rielly by which he undertook to construct a telegraph line, to be worked by the Morse patent, from Philadelphia, through Harrisburgh to Pittsburg. thence through Wheeling and Cincinnati to St. Louis, and also to the principal towns on the Lakes. The proprietors of the patent were to be paid, for the right to use it on this line, one-fourth part of so much stock as should be issued to represent the capital required to construct a line of two wires, and one-half of the stock issued on the capital employed to construct such additional wire. Prior to the execution of the division contracts, the owners of the patent had become dissatisfied with O'Rielly, and claimed and acted on the assumption that he had forfeited his contract, and all rights under it. By one of the division contracts, the other owners of the patent sold to Smith all their rights in any contract before made by them for the use of the patent on the line (among others) specified in the O'Rielly contract; and Smith, on his part, undertook to hold them harmless from any and all claims of or liability to O'Rielly under his contracts with the owners of the patent, and to cause all of O'Rielly's claims to be settled, at his own expense, "amicably or judicially, as soon as may be." Smith, as a means of paying in part for interests sold to him, assigned to the plaintiffs a certain amount of stock and right of certificates to represent the same that should be thereafter issued, namely, 3-16ths of such issues on the two first wires between Philadelphia and Pittsburg, and 3-16ths of all that should be issued to represent the interests of the grantors of the patent on such additional wire between said points, and 3-4ths of 3-8ths of all that should be so issued on the two first wires between Pittsburgh and St. Louis, and a like proportion of the stock that might be issued to represent the interest of the grantors of the patent in each additional wire between the points last named.

Mr. Kendall's letter of August 23d, 1847, objected to the inequitable act of offering this stock to his principals as a compliance with this contract, and before making the offer the Erie line should have the effect to diminish its value by drawing from the line between Philadelphia and St. Louis its legitimate business, and directing it to other lines. This was the objection made to the sale and the use of the patent on the Erie as a main line.

It is also proper to observe that Mr. Smith, having failed to induce O'Rielly and his associates to compromise these difficulties or to consent to arbitrate them and discontinue operations until the end of an arbitration, formed the design, in addition to instituting legal proceedings against O'Rielly and those who might attempt to use Morse's patent on the lines constructed by him or under contracts made with him, of executing a system of bold competition, by constructing competing lines throughout the territory embraced in O'Rielly's contract, and elsewhere, and of arresting his operations by the diminished cost of the new lines, and by using the means within his power to control the business that might otherwise be done on the O'Rielly lines.

It is very natural that in such a state of things, and knowing this to be a leading purpose of the defendant's system of competition, Mr. Kendall should not have convassed the purpose, when just announced, to make the N. Y. and Erie line a main line, as closely, or to have considered the bearings of it as minutely, or to have objected as particularly as he would have done, if there had been no controversies with O'Rielly.

But it would seem to be equally obvious, that it must have been understood, when first announced, that a new main line was to be constructed from N. Y. to Fredonia; that those who subscribed on the faith of a contract that a right to use the patent and all future improvements of it should be conveyed to a company to represent the rights and interests of the subscribers, would expect that it would be continued as a main line so long as the company might see fit to keep it in operation.

Without intending to intimate any opinion as to rights of the plaintiffs, or the liability of the defendant, under the agreement to settle the O'Rielly claims, upon the evidence presented on this motion, we have come to the following conclusions:

First. The papers before us do not show any intentional omission of the defendant to do any acts which it can be fairly presumed, he considered, or was advised by his counsel, would expedite a judicial settlement of the controversy.

Second. They do not show that the proceedings instituted were commenced and protracted as a cover to a fraudulent scheme to organize new companies, and construct new lines, with a design to enhance the value of stock in lines owned by himself, by drawing off business lines in which the plaintiffs were large stockholders, and his own interest was relatively nominal.

Third. They do not establish the fact that, in refusing the various compromises offered by the O'Rielly interests, he was actuated by any purpose of defrauding the plaintiffs, or that he acted otherwise than in accordance with his convictions of what was just and proper in the premises, in view of all the consequences that would have followed an acceptance of either of the proposed adjustments.

Fourth. There is nothing in the evidence relating to the various propositions for an arbitration of the matters in controversy between the plaintiffs and defendant, which satisfactorily establishes the absence of a purpose on the part of the defendant to enter upon a reference of all such matters as he expressed a willingness to refer. He was not bound to submit it to referees to make a new contract as to a division or reparation of interests. That, he uniformly and from the first, refused to do. Any and everything else he expressed a willingness to refer. There is no pretence for saying that the sincerity of his professions is falsified by his conduct, unless it can be successfully insisted, that the obstacles which he alleged existed in March, 1850, to their entering without delay upon a reference, were unreal, and were falsely put forward as an excuse for not then doing an act which he untruly avowed a willingness to perform. There is nothing in the papers before us to justify such a conclusion.

In August, 1851, the defendant again suggested a reference. Mr. Kendall replied, that he would meet the defendant and have a reference of matters, provided that the referees were given the power to adjust all differences, and "dissolve all business connections having reference to the telegraph," and were to be governed by the rules of law and equity as established by the court, and as they might understand them.

Smith replied, consenting to a reference of everything, and that the arbiters might prescribe their own rules of evidence and principles of decision.

To this Mr. Kendall avowed that he was not without doubt whether, at that late day, his principals ought to consent to any terms of arbitration which would allow a compromise of their legal or equitable rights. He then requested defendant to draw up such a submission as he proposed, and said that on receiving it he would invite his principals to meet him "for the purpose of coming to a decision."

There ended all attempts between the parties to arbitrate. It cannot be said that the defendant declined to arbitrate, nor is there any evidence that he did not intend to do so as he there promised to do: After he had agreed to refer everything on the broad terms proposed, he is answered in effect that the plaintiffs must decide for themselves, whether they will consent, and that their agent doubts whether at that late day they ought to consent to such arbitration.

The affidavits and other papers do not establish the fact, that Smith did not expect at the time of contracting with Spred & Cornell, that they would pay in cash for the patent according to their contract, or that he collusively allowed the patent to be used on the line without the contract price for it being paid.

What the precise liabilities of Smith to the plaintiffs may be in relation to that line, in consequence of all that has transpired, we do not intend to express any opinion: that can be more advisedly formed at the hearing on a full consideration of all the facts relating to that transaction.

Whether in the event of a sale of the patent at $50 per mile in cash, or at any other price deemed reasonable in the fair exercise of the judgment of either party, it is not as just and proper for either within his own territory to stipulate in addition, and for his own benefit, for a part of the stock as profits of construction, as well as for a part of the money subscribed, over and above what is required to complete the lines and put them in operation, it is not necessary to decide in order to dispose of this motion; the negative of the proposition is not so clearly right, as to call upon us to grant any part of the prayer for an injunction *pendente lite*, on that ground.

It is not material to the proper decision of this motion, to decide which party is right in his construction of the contract between them of March, 1838, or whether either or both of them has violated or failed to perform any of the covenants on his part, contained in it.

The right to an injunction, if it exists, grows out of acts and omissions to act, the doing or omission of which violate the rights of the plaintiffs as regulated by the division contracts, and which, if continued, would tend to render ineffectual the judgment for any substantial relief, which, it is apparent, or highly probable, they may recover on the hearing of the cause on its merits.

All that we now intend to decide is that there is no such clear proof of any of the acts or omissions alleged with the motives imputed, as justifies the court, at this stage of the cause, in granting any part of the prayer for an injunction. The motion for an injunction must be denied, and the temporary injunction heretofore granted dissolved. The costs of either party upon this motion to abide the event of the action.

Amiable Private Life of an illustrious Public Man.

The death of Mr. Webster has caused the publication of many mementoes that will for ever mark his private character with a degree of amiability which beautifully irradiates the magnificence of his fame as an orator and statesman.

What can be more charming, for instance, than the manner of his correspondence with "John Taylor," the manager of one of his farms? See how the sage of Marshfield illustrated poetry and politics in familiar letters, that would not have seen the light *now* but for his sudden withdrawal from the world in which he occupied such a distinguished station.

Unpublished Letter of Mr. Webster.

The following letters are copied from the Memoirs of the Private Life of Daniel Webster, by Charles Lanman, Esq., now in issue by Messrs. Harper & Brothers. They are addressed to his New Hampshire Overseer:—

Washington, March 18, 1822.

John Taylor—I am glad to hear from you again, and to learn that you are all well, and that your teams and tools are ready for spring's work, whenever the weather will allow you to begin. I sometimes read books on farming; and I remember that a very sensible old author advises farmers "to plow naked and to sow naked." By this he means that there is no use in beginning spring's work till the weather is warm, that a farmer may throw aside his winter clothes and roll up his sleeves. Yet he says that we ought to begin as early in the year as possible. He wrote some very pretty verses on this subject, which, as far as I remember, run thus:

"While yet the spring is young, while earth unbinds
The frozen bosom to the western winds
While mountain snows dissolve against the sun,

And streams, yet new, from precipices run—
E'en in this early dawning of the year,
Produce the plow, and yoke the sturdy steer,
And goad him 'till he smoke beneath his toil,
And the bright share is buried in the soil."

John Taylor! when you read these lines, do you not see the snow melting, and the little streams beginning to run down the southern slopes of your Punch-brook pasture, and the new grass starting and growing in the trickling water, all green, bright, and beautiful; and do you not see your Durham oxen smoking from heat and perspiration as they draw along your great breaking up plough, cutting and turning over the tough sward in your meadow in the great field? The name of this sensible author is Virgil; and he gives farmers much other advice, some of which you have been following all this winter without even knowing that he had given it:

"But when cold weather, heavy snows and rain,
The laboring farmer in his house restrain,
Let him forecast his work, with timely care,
Which else is huddled when the skies is fair;
Then let him mark the sheep, and whet the shining share,
Or hollow trees for boats, or number o'er
His sacks, or measure his increasing store;
Or sharpen stakes, and mend each rake and fork,
So to be ready, in good time, to work—
Visit his crowded barns at early morn,
Look to his granary, and shell his corn;
Give a good breakfast to his numerous kine,
His shivering poultry and his fattening swine."

And Mr. Virgil says some other things, which you understand up at Franklin as well as ever he did:

"In chilling winter, swains enjoy their store,
Forget their hardships, and recruit for more;
The farmer to full feasts invites his friends,
And what he got with pains, with pleasure spends;
Draws chairs around the fire, and tells once more
Stories which often have been told before;
Spreads a clean table, with things good to eat,
And adds some moistening to his fruit and meat,
They praise his hospitality, and feel
They shall sleep better after such a meal."

John Taylor, by the time you have got through this, you will have read enough. The sum of all is, be ready for your spring's work as soon as the weather becomes warm enough, and then put your hand to the plow, and look not back.

DANIEL WEBSTER

Magnanimity of Webster.

Right certain are we that no one who can appreciate the beauty of the foregoing letters from Daniel Webster, will blame us for devoting the brief space necessary for publishing another letter from his gifted pen—illustrating one of the most remarkable exhibitions of MAGNANIMITY that ever marked the conduct of one Statesman towards another Statesman of an opposite party.

No man is fit for controlling "lightning," who should not aspire to some honorable position among his countrymen; and who is there in that category, that will blame us for "rendering justice to Daniel Webster," by showing, from his own letters, how well he was disposed to render justice to those from whom he had on some unfortunate occasions been unhappily (but temporarily) estranged?

(From the New York Journal of Commerce.)

Letter from Mr. Webster to Senator Dickinson.

The Binghampton *Republican* publishes the following interesting letter addressed by Mr. Webster to Mr Dickinson, just as Mr. W. was leaving the Senate to take his place as Secretary of State. Its allusion to painful occurrences in the past, is the charge brought by Mr. Dickinson against Mr. Webster, in regard to the Ashburton treaty and to the strong language in which they were repelled:

Washington, Sept. 27th, 1850.

My Dear Sir,—Our companionship in the Senate is dissolved. After this long and most important session, you are about to return to your home; and I shall try to find leisure to visit mine. I hope we may meet each other again two months hence, for the discharge of our duties, in our respective stations in the Government. But life is uncertain? and I have not felt willing to take leave of you without placing in your hands a note, containing a few words which I wish to say to you.

In the earlier part of our acquaintance, my dear Sir, occurrences took place, which I remember with constantly increasing regret and pain; because the more I have known of you, the greater have been my esteem for your character, and my respect for your talents. But it is your noble, able, manly, and patriotic conduct, in support of the great measure of this session, which has entirely won my heart, and secured my highest regard. I hope you may live long to serve your country; but I do not think you are ever likely to see a crisis, in which you may be able to do so much, either for your own distinction or the public good. You have stood where others have fallen; you have advanced, with firm and manly step where others have wavered, faltered, and fallen back; and for one, I desire to thank you, and to commend your conduct, out of the fulness of an honest heart.

This letter needs no reply; it is, I am aware, of very little value; but I have thought you might be willing to receive it, and, perhaps, to leave it where it would be seen by those who shall come after you. I pray you, when you reach your own threshold, to remember me most kindly to your wife and daughter. I remain, my dear Sir, with the truest esteem,

Your friend and obedient servant,
DANIEL WEBSTER.

Hon. Daniel S. Dickinson, U. S. Senate.

A Medium of Intercommunication and Bond of Union among Telegraphers.

Among the sources of satisfaction which compensate for many cares, may be reckoned, the power of keeping up a "speaking acquaintance" with friends in all quarters of the land. The publication of the Telegraph Magazine is serving as a medium of intercommunication—as a bond of union—between Telegraphers scattered all over our vast territories—in the British possessions, as well as in the United States.

Here, for instance, are a couple of specimens, from among those which reached us in a single mail from opposite regions of the Union:

(From the Superintendent of the Maine Telegraph.)

Bangor, Nov. 17th, 1852.

Friend Mann—It is a very long time since we met, and our Telegraphic operations have been wide apart—yours mostly in the west, and mine quite "down east;" but I have occasionally heard of you, and am glad now to see that I may hope to hear *from* you monthly.

With hearty wishes for your entire success in this new movement, I have to request you to accept the inclosed, and send your magazine. Very truly yours,

JAMES EDDY.

From the Constructor of the New Orleans and Texas Telegraph Lines.

Baton Rouge, La., Nov. 8th, 1852.

Donald Mann, Esq., Ed. Tel. Mag.

Dear Sir—I was agreeably surprised this morning to get from the Post Office a number of your "National Telegraph Magazine," and I have just time before leaving town, to write you a few lines in relation to it.

I have had charge of the Baton Rouge Office for the last ten months, but am now about to embark on the construction of the New Orleans, Opelousas and Great Western Telegraph," to extend from New Orleans to the North-western Red River country, and from Opelousas to Houston and Austin in Texas. The lines will reach some 650 miles, at about $200 per mile, and I buy the patent right of Mr. Kendall.

Relative to the "Magazine," I will say I am glad you have commenced it, and hope you will prosper and succeed as you deserve to, because the Telegraphic profession need some such a work to illustrate and defend their business and the system. You will hear from me again in the course of three or four weeks, with *subscribers and money*. At this moment, I have only time to say, God speed you in your work.

The advertisements of instruments, batteries, and other materials, were opportune, as I shall soon need them all.

I made your acquaintance at Buffalo, in '48.

Very truly, yours telegraphically,

L. W. CADY.

Telegraph Law—Responsibilities of Telegraph Companies.

There is room and necessity for an addition to our Codes, in the matter of Telegraphs and their rights and responsibilities. "Telegraph Law" deserves the consideration of Jurists competent for devising a system which shall protect equally the Public and the Telegraph Companies.

The Telegraph involves a degree of trust and confidence which places it among the foremost of human institutions; and every thing should be done which law and honor can do to protect the rights and remunerate the services of all concerned in this branch of the public service—(for, though managed by individuals or corporations, the Telegraph is essentially a Public Institution). On the other hand, the law can hardly be too severe in its denunciations and penalties against those Telegraph officers or Companies who in any way abuse the sacred trust reposed in them by the community.

We commend the subject to our friends in the Law and Lightning Lines; and trust that we may, from their joint lucubrations, soon derive a "Telegraphic Code," which shall serve, like the Maritime Law, to govern all concerned in transacting the business to which it refers. It cannot be established too soon. Questions are constantly arising respecting the extent to which companies or correspondents and others should suffer from errors or abuses in the Telegraph system, including also the extent to which Telegraph officers should be made responsible for prostituting their immense power by franking libels over their lines for publication, against persons with whom they may have any collision or controversy—of which latter offense, a signal instance has lately reached our knowledge.

Crystal Palace.

Circular to American Producers, from the Association for the Exhibition of the Industry of all Nations.

New York, 6th Dec., 1852. Office, 53 Broadway.

I address you, on behalf of the Association for the Exhibition of the Industry of all Nations, to invite your co-operation in the general objects of the enterprise.

The building intended for the purposes of the Exhibition, constructed entirely of Iron and Glass, will be, it is believed, the largest and most beautiful edifice in the country. It covers, on the ground floor, two and a half acres, and, with the galleries, the whole space is four acres. The mason-work is entirely completed. The main part of the iron-work is contracted for, a large part of the castings are delivered on the ground, and the construction is going steadily on. We intend, as we have already stated to the public, that the Exhibition shall be opened on the 2d of May, 1853.

You are thus offered an unequaled opportunity of exhibiting to the vast population of this country such of your productions as you send us, free of all charge of every kind whatever from the time that they are delivered into our custody until withdrawn.

The Association has already announced that their objects are limited exclusively to *Exhibition.* They have no interest whatever, direct or indirect, in the final disposition to be made of any article that may be displayed.

You are, no doubt, aware that we have received all the assistance, from the public authorities, that we have desired. The City has given us the lease of Reservoir Square:—the State has granted us a charter, and the Federal authorities have engaged that the building shall be made a Bonded Warehouse for the purpose of receiving foreign articles without paying duty so long as they remain in it.

We have the strongest assurances of support from the Representatives here, of the principal foreign countries. The late lamented Mr. Webster, on the 12th October, issued a private circular from the Department of State to the Representatives of this Government at the Courts of the Principal European Powers, requesting their assistance in the objects of the undertaking, and we are receiving daily confirmation of the general interest that the subject is exciting among the manufacturers of Europe. A large number of articles of high value are already secured, and we have no doubt whatever that we shall have a very extensive representation of all the branches of foreign industry.

The measures which we have adopted will, thus, secure two great objects we have desired to attain, viz.: the erection of a building which will be a great architectural ornament to our City, and the exhibition, in that building, of the products of the industry of the Old World; still, we shall fall far short of our mark, if we do not equally succeed in obtaining the fullest and most extensive co-operation of American industry; our Exhibition would be extremely defective—it would be very inferior, both in interest and in utility, to what we mean to make it—if the great resources of the people of our own country were not fully displayed in it.

We believe it to be unnecessary to urge upon you the arguments on this subject, which we are sure will present themselves to the mind of every intelligent American producer—your position in the world of American Industry, your own interest and and what is due to an enterprise devised and meant to be carried out with no narrow views, but on a large scale of public usefulness—all entitle us to entertain the fullest conviction that you will send us some of the choicest specimens of your skill, and that you will urge your friends to do the same.

In making this application, we desire to have it understood, that we intend to call forth a complete representation of the entire Resources of the country, as well of Raw Materials as of Manufactured Articles. We hope to see abundant specimens of the Cereal products of the Northern and Western States, of the Cotton and Sugar of the South, as well as of all the other great agricultural staples of the Country. Of similar importance are the Mineral treasures of our Continent. We are particularly desirous that our Building should contain a complete collection of the various Ores which the active industry of our People is daily bringing to light, of the metals produced from them, in their various stages of development, and also of all other Minerals. This would include as well Coal, Granite and other similar substances, as those chemical products more especially used in the Arts. The Ores should be accompanied by the Rocks in which they are found, and if possible, by plans and sections of the measures in which they lie. It would also be of great interest to exhibit, either by Models or descriptive Drawings, the different processes employed in the reduction of the ores and the manufacture of the Metals. You will readily see the importance and value of a collection of this kind, and if the specimens are forwarded to us, we shall take such measures for their classification and arrangement as will best subserve the objects of the Exhibition, and, at the same time, add to the information and experience of our People.

We have, heretofore, announced that Paintings in Frames will be exhibited; and we are very desirous that the Sculpture of the Country may be fully represented. If our wishes, in these respects, are answered, our Building will furnish a complete illustration of the Natural Resources, the Art and the Industry of our People; and the manifestation thus made, will, we are convinced, surprise even those most conversant with the Progress of the Republic.

We inclose our General Circular and also a form of Application for Space, to which we beg your attention. Copies of these or of this letter, if you desire them to send to your friends or correspondents, can be had at this office.

In order that we may know on what extent of co-operation we may depend, the favor of a reply on or before the 15th day of January is asked. Please address it to Wm. Whetten, Esq., Secretary of the Association.

I have the honor to be, with great respect, your obedient servant,

THEODORE SEDGWICK, *President.*

Defective Insulation—a glaring defect in all the Telegraph Lines.

The improvement of Telegraphic insulation is the most important matter now to be considered in the building and working of Telegraph lines.

The Electro-Magnetic Telegraph is so simple in its construction and so perfect and reliable in its operation, as, under proper circumstances (as far as it is concerned), to leave hardly anything to be desired. It is easy to put up posts firmly and permanently, and wire can be procured of such fine quality as to answer all reasonable strains and trials which its suspended position makes it liable to.

Still, the important fact, that in rainy or foggy weather *all the Telegraph lines in the country are unreliable*, and worked (if at all) with extreme difficulty, has for the last six years been soliciting the attention of telegraphers, and calling loudly for a remedy. We quote the following paragraph from the N. Y. Express of Dec. 4, as illustrative of this general defect in all existing Telegraph Lines:—

"The heavy rain storm which has prevailed since 10 o'clock last evening has nearly or quite stopped the operations of most of the telegraph lines thus far to-day.

At one o'clock we received information that the House line had been working through to Boston since about 11 o'clock.

The Union line (Bain's wire) had been working to Boston at intervals during the morning.

"The Union line (Morse wires) were working to Hartford. The Magnetic line was working to Washington slowly.

"The Washington and New Orleans lines were working imperfectly to Columbus.

"National line to New Orleans, not working.

"The Merchants line (Bain) was working through to Buffalo.

"The House and Morse lines were working only to Poughkeepsie."

The above indicates the condition of our Telegraph lines generally in rainy weather, such as it was on the 4th inst. The lines universally work badly in very wet weather.

Can the present insulation be materially improved? is, then, a *very* important question. We answer; it can be so much improved, as to secure the perfect working of a line five hundred miles in length during the worst weather.

Science has told us, ever since the first mile of telegraph was erected, that we should not rely on *glass* as an insulator; and yet we have used it *almost* universally. Every one has observed that, whenever the weather is wet or foggy, any article of glass is covered with a thin film of water, and of course every "insulator" on a line of telegraph is so covered with moisture. Certainly some electricity will escape over each glass insulator so covered with moisture; and when we reflect that, on a line of Telegraph five hundred miles in length, there are 15,000 such imperfect insulators to conduct the fluid from the wire, we are at no loss to account for the dissipation of all or nearly all the Galvanism generated by the battery, and the consequent bad working of the line.

Without, at present, entering very minutely into the subject, we will state our own opinion as to the material which should be used for Telegraphic insulation. Inasmuch as glass cannot be so protected as to prevent its surface from being covered with a film of water (unless it be covered with varnish, in which case the glass itself is unnecessary and useless), some other insulating substance not liable to that objection, should, if it can be obtained, be used.

It is well known that *dry wood*, as an insulator, is inferior to no other material. Shellac is also as perfect an insulator as we have. Now, *saturate* and *cover* dry wood with shellac varnish, and we have a cheap and nearly perfect insulator. Moisture does not condense on and cover a varnished surface, as it does a glass surface. Besides, the greater the extent of insulation, the less electricity will escape over it.

It will be readily seen that a large surface of wood and shellac can be obtained at a much smaller price than it could be of glass.

We say nothing at present of the *shapes* and *forms* best adapted for telegraphic purposes, but throw out the foregoing hints, hoping to hear from some of the Telegraphic fraternity on the subject.

We shall enter more thoroughly into the discussion of this important matter in a subsequent number.

The Municipal Telegraph, for Police and Fire Alarms

We are gratified to learn that considerable interest is awakened in various large cities towards the introduction of the beautiful application of Electricity which is known as the "Electric Fire Alarm," and to which reference was made in our November number. Dr. W. F. Channing and Moses G. Farmer, Esq., whose combined ingenuity and exertions have handsomely demonstrated the value of the system in Boston, deserve liberal remuneration for their well-directed efforts.

With a view of benefiting alike the public and the inventors, we cheerfully re-publish a statement furnished by one of the Boston journals, concerning the practical working of the "Municipal Telegraph for Police and Fire Alarms.

The importance of this beautiful System induces us to devote more space in this Magazine than we can well afford now for additional illustrations. We are sure that every one of our readers will be interested in the additional details furnished by the Boston newspapers, from one of which we quote the following memoranda :—

(From the Boston Daily Advertiser.)

It should be understood that there are two distinct sets of apparatus;—that by which news is communicated to the central office by police or firemen, who may receive answers at once by the same route;—and that by which all the signal bells in town are wrung without bell-men, *without opening the doors of the churches in which they are*, by machinery set in action by the operator in the central office.

By the second of these he can ring these bells in eleven different ways. A continuous tolling at the beginning of an alarm calls attention to the bell. After eight seconds pause, he can strike it by one clap, or two claps close succeeding each other, or three such, or four, five, six or seven. Such blows indicate respectively that the fire is in District No. 1, 2, 3, 4, 5, 6, or 7 of the city. The operator can also strike one clap, with two then close succeeding. This indicates "all out;" and he has other variations at command, still.

Yesterday all the nineteen signal bells were struck in these various manners; sometimes all together ; sometimes the northern circuit of nine bells; or the southern, or the South Boston circuit alone.

By the first series of apparatus, the signal system, which gives information from and to the signal boxes, the operator in the center receives the news he is to give, and communicates any he may have to the signal boxes. Any policeman who understands the simple magnetic alphabet may thus send to Marshal Tukey from any part of the city, and receive an answer at once from the city building, where the office is. It is for this purpose alone that an apparatus has been lately erected in Berlin, and this will probably prove one of the most valuable features of this system.

To insure safety here, a magnetic clock of Mr. Farmer's patent, in the office, is arranged so that whenever it strikes, its striking shows whether the circuits are all complete or not. Any failure in the circuit would be thus notified, at longest, within an hour to the operator.

Our readers undoubtedly heard the tolling of the bells yesterday afternoon. It was varied as different gentlemen asked for one number or another. All the action necessary is the holding down at the office of the particular key, which on a key-board indicates 1, 2, 3, &c., the number of strokes to be sounded, for the particular purpose required. A fire in district No. 4, will be indicated by four strokes, a pause, four more, and so on, till the bell sounds "all out."

An accessary benefit of the system is its protection of the town from lightning. All the immense surface of wire employed is in constant communication with sixty dischargers of atmospheric electricity; which are so many perpetual protectors of the town against any dangerous accumulation of this fluid.

Firemen will appreciate at once the value of a system which saves them less running and great waste of time; and sleepy citizens with property in District No. 2, will be glad to know the moment the bells strike at night, whether the fire is there or in No. 7.

The city of Boston, in the establishment of this machinery, has been the first city in the world to use the Telegraphic Communication for municipal and police purposes, and it has used it, as we have said, more completely than the city of Berlin, the only other place where it is yet attempted.

◆

Hints to Telegraphers about the necessity of increased attention, &c.

The good feeling which induced the public to bear with many of the errors and difficulties of "the Telegraph," is now subsiding, and the stern rules of "business" are beginning to be applied rigidly to the Lightning Lines, as well as to Railroads, &c.

See what heavy damages the juries in all parts of the Union are giving against any and all Railroad Companies upon whose lines any accident unfortunately occurs. Similar stringency, unless we greatly mistake the "signs of the times," will ere long be more or less visited upon the delinquencies of the Telegraph. Increased attention to official duty is therefore particularly incumbent on all telegraphers who properly estimate the pecuniary interest of the enterprise, as well as their own personal reputation.

There is unfortunately too much proof of the fact, that in no branch of business is there such looseness as prevails in some of the Telegraph Lines through the Union. The recollection and observation of every telegrapher will furnish him abundant evidence on this unfortunate subject.

We do not *now* propose to enter into details; but we refer to several articles in the Telegraph Magazine, as indicative of our readiness to expose and castigate delinquency on whatever "line" it may be detected. Whether it be called a Morse Line or a House Line—an O'Rielly Line, a Speed Line, or a Wade Line, on which any mal-practice occurs, our course will be uniform and unshrinking; and we invite information from any and all quarters, respecting mismanagement on any of those Lines—that the exposure of error or delinquency may operate to prevent similar improprieties on other routes, for the common benefit of Telegraph Companies and the Public.

Courtesy and accuracy, are scarcely less important than fidelity, in the discharge of Telegraphic duty; and Telegraphers generally, as they value their own welfare and the prosperity of the enterprise—(one of the noblest enterprises to which the intellect of mankind was ever devoted)—should keep steadily in view the maxim of Roman virtue which requires that one should be "not only pure, but unsuspected."

When it is considered to what extent the Telegraph is made the depository of the *secrets* and *confidence* of the community, the reflection of every mind will readily furnish sermons on these subjects, more powerful than anything we could utter, although we will not hesitate to make specific applications of the doctrine, whenever necessity for censure is made apparent to us in the transactions of any Line.

◆

New-York State Printing Telegraph Company.

It affords us satisfaction to learn that the operations of this Company are meeting with reasonable success. On a route whereon so much competition exists, and whereon the business generally is so well transacted by other Lines, between New York and Buffalo, it is achieving considerable to obtain a fair footing for a new competitor. We have already spoken warmly, but only in well-deserved terms, of the qualifications of Mr. Stager (formerly on the O'Rielly Lines), who has now the active superintendence of this "House Printing Line." The following, from among the letters received from Telegraphers along this route, indicates the interest with which any and all means of improvement are hailed by many of the employees of this Company, as well as on other Lines established under the House Patent:—

Donald Mann, Esq., Editor Tel. Mag.

Dear Sir—Your Magazine for October has been placed in my hands by one of the House Operators in the Utica Office.

I rejoice to see a publication of this character—have wished for the past two years (while I have been connected with Telegraphing), to have such a periodical or medium of some sort, in which the views of Telegraphers in relation to wire-working, (not political wire-pulling), might be recorded and interchanged.

In my opinion, there is much yet to be learned in the practical science of Telegraphing. Some new phenomena occur often, which if recorded, and other minds brought to bear upon the subject, useful results might be obtained.

I hope your correspondents, who possess the requisite tact to make such observations, will, through your columns, instruct the mass, who, while they may not contribute any useful information to your Magazine, are, like *myself*, "anxious to learn."

I will do what I can to increase your circulation. I have had charge of the Office the past two years; and, while I remain in the business, mean to avail myself of all the opportunities that are afforded for more fully understanding the intricacies of the craft.

Only a word or two more, lest I may tire you. In my opinion, too many boys are engaged as Operators in different offices, to insure promptness and stability, such as the public have a right to expect. All boys are not alike by any means. I am glad to know of some boys who are of the right stamp in every respect. Truly yours, &c. B.

◆

"Maine Law" for Telegraphs.

It is stated that the last legislature of Maine passed an Act making Telegraph Companies liable for error in dispatches, either in transmission or writing out, to the amount paid for its transmission to its destination, either in or out of the State. In case of unreasonable delay to transmit or deliver, affecting the value of the dispatch, the whole amount paid shall be refunded. Damages for falsifying a dispatch, from twenty to one hundred dollars. Operators, agents, clerks, and other officers, are also held liable for any fraud committed or attempted by means of the Telegraph.

◆

American Crystal Palace,

(Exhibition of the Industry of All Nations at New York.)

The success of the Great Exhibition in London has given impulse to various projects of similar character in different nations. In several countries of Continental Europe, and also in Ireland, the example is having a salutary effect in arousing attention to kindred matters.

Our own country will have a competitor in the field next spring, in the shape of a "CRYSTAL PALACE" at New York, which promises to be eminently attractive. The circular of Mr. Sedgwick, President of the company, under whose auspices the enterprise is undertaken, will explain the precise objects better than we could hope to do. To that interesting paper, which will be found in another part of this magazine, we earnestly invite the attention of all telegraphers throughout the British provinces, as well as in the United States.

Each man can exert some influence in his sphere; and it will afford us particular satisfaction, if, in witnessing, as we hope to witness, a triumphant success for the American "Exhibition of the Industry of All Nations," we may be able to state that an important impulse was given to the enterprize by the cordial and efficient influence of our telegraphic friends in all quarters of Northern America.

◆

Another Bombshell—Dr. Jackson's claims to Telegraphic Invention,

The telegraph system, it might hardly be considered an exaggeration to assert, is scarcely more remarkable in its electric attributes, than in the connection it has had with controversy concerning its own origin and progress.

We have in our possession, about ten thousand printed pages on all sides of all questions connected with telegraph history in America—the substance of which, by no means "compressible in a nutshell," will be published from time to time, as our limits may allow, in the manner we are now publishing portions of it, until the Telegraph Magazine shall embody every essential fact or circumstance relevant to the "vext question;" and it would seem that, although some important dicffiulties have been settled, even this vast mass of controversy is to be considerably increased—in evidence of which, we are now presented by a distinguished gentleman, with a copy of a large pamphlet, containing sixty-six pages, purporting to be "A Full Exposure of Dr. Charles T. Jackson's Pretensions to the Invention of the Electro-Magnetic Telegraph."

The book is said to be written by the Hon. Amos Kendall, and certainly, from the vigor of the style (if we may judge from a cursory examination), it would do no discredit to the polemic reputation of that able writer. This we say without meaning to be understood as expressing any opinion at preseut upon the merits of the controversy; though we will not hesitate to express an opinion, after we shall have placed before our readers enough of the facts to enable them to judge for themselves on the same evidence that governs our decision.

We will thank any gentleman for documents or papers that may tend to elucidate any and all points in telegraphic history; and the use we will make of such materials, will satisfy all reasonable persons of the value of an impartial publication like this Magazine for collecting, preserving, and disseminating the essential facts connected with the origin, progress, and condition of the Telegraph System.

◆

New Telegraph Alphabet, and the National Telegraph Convention.

We were mortified to find that, owing to misapprehension about the proof-sheet (as we werecalled westward before all the typographical corrections were made in our last number), several errors occurred in printing the new alphabet proposed for adoption on the New York and New England *Union* Telegraph Lines. We hasten to correct those errors, by inserting the following letter from Henry M. Schieffelin, Esq., the President of the Union Company:

New York, Nov. 24th, 1852.

Donald Mann, Esq., Editor of the Telegraph Magazine.

Dear Sir—I notice that, in the new alphabet reported in your last number, the letters I, O, and R, are incorrectly represented, owing to a not sufficiently intelligible correction in the copy furnished to you. The I should be two dots, the O four dots, and the R a dot and a dash. The introduction of this alphabet ou the Union Line has since been postponed, in view of the probable action of the approaching National Telegraph Convention.

Yours, respectfully,
H. M. SCHIEFFELIN,
President of New York and
New England Telegraph Company.

◆

Ocean, Delaware and Philadelphia Telegraph Company.

The following letter indicates the sphere of operations of the above-named Company:—

Donald Mann, Esq., Editor Tel. Mag.

Dear Sir—This Line extends from Wilmington to Lewes, Delaware, and is principally used for transmitting Marine news of vessels passing in and out at Cape Henlopen, and anchoring at the Delaware Breakwater. It has offices at Wilmington, New Castle, Delaware City, Cantwell's Bridge, Dover, Milford, and Lewes.

Rates from Wilmington to New Castle, Delaware City, and Cantwell's Bridge, 10 cents for 10 words, and 1 cent each additional word; from Wilmington to Dover and Milford, 20 and 2; and to Lewes 25 and 2.

It does a very limited business, and is kept up principally by Merchants in Philadelphia. I will have a list of operators sent to you as soon as possible. Your obedient sevt.,

EDWARD P. ROBINSON,
President and Superintendent O., D. and P. Tel. Co.

◆

Movements of Telegraphers.

Jas. Bailey, Esq., has recently been appointed to the responsible position of chief Telegrapher, in New York, of the "*Coast Line*" Telegraph to New Orleans.

Mr. Bailey, some two or three years since, commenced his telegraphic career as a day laborer on the lines west of Philadelphia. He had no friendly influences to advance his interests. But strict integrity and excellent capacity for business will exhibit themselves, though their possessor be too modest or too proud to display them for his own advantage.

Many who know him, will be glad to know that Mr. B. has charge of one of the most important Telegraph offices in the Union, and is in receipt of one of the best salaries paid in the business. Long may he live to enjoy his present, or a better, position.

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Magnetic Telegraph Company, between New York and Washington.

It may be useful to some of our readers to know the location of the various offices on the Lines of this primitive company—which company claims to be the "Pioneer Line" in the lightning business in America—and which has certainly proved to be one of the *very best* and most profitable, as it was one of the earliest, Telegraph Companies under the Morse Patents. It may also be somewhat interesting to see that the views entertained by the officers of this Model Line respecting the utility and impartiality of the Telegraph Magazine, correspond with the sentiments expressed so warmly by Professor Morse himself, as well as by the principal managing officers of most of the prominent Telegraph Lines in the United States and British possessions.

Philadelphia, Nov. 23, 1852.

Donald Mann, Esq., Publisher Telegraph Magazine.

Please furnish to each of the following offices of the "Magnetic Telegraph Company," one copy of each number of your Telegraph Magazine, from and including the first number, for one year, and that only, unless re-ordered. Offices, corner of Hanover and Beaver streets, and 203 Broadway, New York; No. 17 Montgomery street, Jersey City; No. 305 Broad street, Newark, N. J.; No. 38 Albany street, New Brunswick, N. J. Princeton Railroad Depot, Princeton; corner State and Warren sts., Trenton; No, 101 Chestnut street, Philadelphia; corner Third and King streets, Wilmington, Del.; St. John street, Havre-de-Grace, Md.; Sun Iron Building, Baltimore; corner of National Hotel, Washington City. Please direct to "Magnetic Telegraph offices," at the above places—making twelve subscriptions.

WM. M. SWAIN,
President Mag. Tel. Co,

(Second Dispatch.)

I telegraphed to you the other day, ordering copies of your Magazine to be furnished to each of the *offices* upon this Line. A number of our operators think they would like to become subscribers to it also on their own account, and desire to know what terms you furnish it to clubs, of five, twelve, &c.

I should like to see it in the hands of every Telegrapher in the country. I think it would do great good. Please reply, and oblige,

Yours, WM. M. SWAIN.

Professor Morse's Claims to Priority in Electric Recording Telegraphs.

In addition to the large portion of this Magazine already devoted to the publication of the judicial exposition of Professor Morse's claims to originality in the invention of ELECTRIC RECORDING TELEGRAPHS, we cheerfully appropriate several additional pages to the publication of another paper from the same source—to the exclusion of several articles on various subjects, which were prepared for this number.

This last statement of Professor Morse, which is annexed hereto, is chiefly pointed at the assertions made by Dr. W. F. Channing, of Boston, whose statement was published by us in the November Number of the Telegraph Magazine. It is, however, applicable equally to others who take similar grounds, including Dr. Jones, in his work on Telegraph History.

With the statements which this single number of our Magazine contains, the reader is possessed of all the leading features of Professor Morse's claims to originality in the invention of Electric Recording Telegraphs; but the Appendix to the Professor's deposition, (which, Appendix, we have promised to publish in the January Number,) will furnish many interesting papers, illustrative of the position taken by our distinguished countryman on this important question. But we will no longer delay the reader from the perusal of the article, just received from Professor Morse:—

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Professor Morse on Priority of his Telegraph Invention.

To Donald Mann, Esq., Editor, Telegraph Magazine:—

The attempt is being made, by partial and garbled extracts from the voluminous evidence in the various Telegraph cases, to fix the date of my Telegraph Invention at *October*, 1837, the time of filing my caveat at the Patent Office. On what principle of justice is this done? Allow me to sift this matter to the bottom; and, if, in view of the facts, the intelligent public shall decide, that to others, whether it be the ingenious Wheatstone of London, or the no less ingenious Steinheil of Bavaria, belongs the credit of having invented the first Recording Electric Telegraph, I am bound to submit to their decision, and abandon the cherished illusion of twenty years of toil, and sacrifice, and anxiety, to wit; the belief that I had earned for my country the credit of what has been termed throughout the civilized world, "the greatest invention of the age."

If some of our scientific men prefer, from whatever motive, to apply general rules in such a way that they may be in operation to favor others, but must cease their operation when they favor me, it is well to let the fact be known, that an intelligent public may know in what estimation to hold their reasonings.

As the whole matter of priority is brought into view on one page in your November number, from Dr. Channing's evidence in the Philadelphia case, I here give extracts to serve as the text on which I wish to comment.

On page 52, Dr. Channing says,—" The paper of Professor Steinheil goes on to describe " his Registering Telegraph. This is also de-" scribed in the *Comptes Rendus* of the French " Academy, of the sitting of September 10th, " 1838, pages 590 to 593. It thence appears " that this Telegraph was in public operation be-" tween Munich and Bogenhausen on or be-" fore July 17th, 1837. In the same year, the " Deflective Electro Magnetic Telegraph of " Cook and Wheatstone, was patented, having " been sealed June 12, 1837. (London Reposi-" tory of Patent Inventions, 1839., Vol. XI. new " series, p. 1.) *This brings the history of the " telegraph to the time of the caveat of S. F. B. " Morse, in October* 1837, *or to the first descrip-" tion of his telegraph, believed to have been giv-" en to the public, in the same year;* also (on au-" thority of a book, entitled, ' The American " Magnetic Telegraph, by Alfred Vail, Phila-" delphia, 1845, p. 70.') *the time of the first test " experiment of the whole plan*, stated by S. F. " B. Morse, in a letter to the Hon. Levi Wood-" bury, Secretary of the Treasury, and believed " to be included in a report to Congress, made " under, date of Dec. 6, 1837, to have been de-" vised, but not tested until a few weeks pre-" vious to the 27th of September, 1837."

Two rules have been singularly mixed and unequally applied by Dr. Channing, in determining priority of invention in this case. One is *the time of construction, or the actual invention—the other, is the time of publication, or the time of making known to others, what had been constructed or invented.*

In order to show that Stenheil has precedence of me, he compares *the time of construction* of Steinheil's not with the *time of construction of mine*, but with the *time of publication of mine;* choosing to consider October, 1837, as this time of publication; and because June 17, 1837, is before October, 1837, therefore, he would intimate that priority belongs to Steinheil.

Why are these rules, so distinct in their character, compounded at the moment of their application? Apply either of them equally to all, and I have no objection to abide the result.

If the *time of construction* is to considered the date of Steinheil's invention, then let the time of construction be the date also of my invention. How then will the case stand. ?

Dr. Channing, as well as the Abbé Moigno, in agreement with Prof. Steinheil himself gives the date of the construction of Steinheil's telegraph as July, 1837. Dr. Channing says, " this " telegraph was in operation between Munich " and Bogenhausen, on or before July, 1837." The Abbé Moigno says,—" Son télégraphe, (Steinheil,) était construit en Juilet, 1837." Professor Steinheil, in his first published acount of his Telegraph, in the *Comptes Rendus* of the French Academy of Sciences, says, " De-" puis un an qu'il était construit, en Juliet 1838." —that is, July 1837. Here we have the date unmistakably, of the first construction of Steinheil's Telegraph,

Now, apply the same rule to mine. When was mine first constructed? It is in evidence, (in the same case in which appears Dr. Channing's deposition,) that in *November*, 1835, there was in practical operation my Recording Telegraph in the New York City University—the same in principle that is now almost universally adopted, not merely in this country, but all over Europe—and there, at least, accredited to me. The deposition of Daniel Huntington is clear and full in regard to this telegraphic instrument; and, in another case, the deposition of Osbert Loomis confirms the same date; as does also the deposition of the Hon. Robert Rankin; these all saw it in operation in 1835, and testify under oath, to the fact, and to the date, clearly and minutely.

The deposition of Prof. Gale testifies to seeing the same Telegraph in operation in January, 1836; Prof. Torrey, and others, to seeing the same instrument at various times, from the autumn of 1835 to the autumn of 1837.

Here is established not a priority of a few weeks or months only, but of nearly *two years.*

But, if it be thought that the application of this Rule results too favorably to me, take the other. Try the Rule of *the time of earliest publication;* but deal fairly, and let it be applied to all alike. To avoid any unnecessary controversy here as to what has been a " publication" in my case, (on which I may have something to say at another time,) let the time admitted by Dr. Channing, to wit, *October*, 1837, be admitted as the date of my invention.

When was Steinheil's published? I have some reason to know, for I shall not easily forget the expression of countenance of M. Arago in the ante-room of the Academy of Sciences, on the 10th of September, 1838, when, just previous to the sitting at which I was about to exhibit to the Academy my Telegraph in operation, he put into my hands the drawings of Prof. Steinheil's Telegraph to examine, and alluded to the singular coincidence that two Electric Telegraphs, one from Germany and one from America, were to be presented to the notice of the Academy at the same session. Steinheil's memoir was read, and my Telegraphic instrument was exhibited the same afternoon; and in the Comptes Rendus of that session, are published accounts of both. But as mine had been previously published in the United States, (as is admitted,) so early as October 1837, how stands priority under this rule?

It may be said, this disposes of the question so far as Steinheil is concerned; but how stands it with Wheatstone—for Dr. Channing gives the date of Wheatstone's Telegraph, June 12th, 1837, on the ground that his patent was *sealed* at that date. It might be sufficient in the outset to say that Wheatstone's Telegraph is not in the same category. It is not, and never has been, a *Recording Telegraph;* it is a *needle Telegraph*, using evanescent signs. But, waiving this fact, and supposing it to be even identical with mine,—what then? The rule of *time of construction*, if applied, cannot by possibility bring June 12, 1837, before November, 1835.

How is it with the Rule of *time of publication?* June 12th, 1837, is indeed before October, 1837; but October 1837, *is before December*, 1837, and this latter is the date of Wheatstone's publication. There is *no publication* in England of a Patent before the *Enrolment;* and the date of Wheatstone's enrolment is December 12th, 1837. This point has been settled by our Attorney General, and ought to be familiar to Dr. Channing, from his frequent connection with patents. The reason in the case is obvious enough. When a patent is *sealed* in England, there is no *description* or *specification* recorded; it is patented and sealed from its *title* only, which may be, and generally is, in the most vague and general terms; and ordinarily *six months* are accorded to the patentee to file his *specifications*, drawings, &c.; and then only is his patent *enrolled*, and at which time only does it become a publication. Nothing is published before. How stands priority in this view?

But it is said to me, "Unfortunately for your claim of priority under the Rule of *time of construction*, you have yourself used these words in a letter to the Secretary of the Treasury, of the date of September 27, 1837, to wit: 'although the rest of the machinery was planned, yet from the pressure of unavoidable duties, I was compelled to postpone my experiments, and was not able to test the whole plan, until within a few weeks.' This statement to the Secretary, limits you to August 1837, at least."

This passage has been quoted from my letter to the Secretary of the Treasury, and plausibly perverted to mean, what it was not intended to mean, and does not mean when taken in connection with the facts of the case. It has been misapprehended as intending to declare that the main and essential parts of my telegraphic invention had not been tried until within a few weeks of the writing of that letter—that is to say, some time in August, or beginning of September 1837; and, therefore, it is insisted my invention must take date from that time at farthest. If at first blush this passage would seem to a casual reader to favor the construction attempted to be put upon it, still I cannot but think that a candid and unprejudiced mind, in view of all the evidence in the case, would have sought in that evidence for a more limited meaning to the sentence, the better to reconcile what might seem to be contradictory. In the light of that evidence, it could not mean that I had not constructed and put into successful operation, as early as the autumn of 1835, (two years previous to the date to which they would force me to descend,) a Telegraphic instrument, which, *by means of an Electro Magnet*, operating *by the power* of a *current of Electricity*, to *attract an armature* affixed *to a lever*, *marked* a *peculiar system of characters*, *signs of intelligence*, on *a strip of paper* moved by *clock-work*, *beneath a pencil.* These are the essential and well-known characteristics of my present system; and that so much was done and shown in November, 1835, is attested by witnesses of unimpeachable integrity, as I have already stated.

What then did I mean, by "*the whole plan*, that was not tested till within a few weeks"? Clearly, I could not have referred to this instrument of 1835; for that had been tested repeatedly, two years before. By reference to my caveat, which was then just prepared, and the petition written and sent to the Patent Office only the day after my letter to the Secretary, to wit., September 28th, 1837, the answer is obvious. I had been engaged at intervals for more than a year previous to Sept. 1837, in constructing a *new instrument*, which I intended should be more perfect, embodying the first, indeed, but with additions which I then deemed, and from the beginning had deemed, essential to perfect "my whole plan."

That this point may be made perfectly clear, I will give the general and essential characteristics of the first Telegraph of 1835, and also of the one contemplated when speaking of the "whole plan" in my letter to the Secretary, of Sept. 1837.

The Telegraph of 1835, consisted of the following parts:

1st. *A train of clock wheels to regulate the motion of a strip of paper.*

2d. *Cylinders* from which, and on which, the paper was unrolled and rolled.

3d. *A pendulum lever*, through the bottom of which *a pencil* plays in contact with the moving strip of paper.

4th. *An armature* attached to the pendulum, to be moved in one direction by an Electro-magnet, and by a small weight or spring in the other.

5th. *An Electro-magnet*, so placed as to attract (when charged) the armature upon the pendulum.

6th. *A Galvanic Battery* of a single cup.

7th. *Conductors*—the coils of the Electro-magnet being part thereof, and broken at two cups of mercury attached to—

8th. *A portrule* which carried regularly forward certain pieces of cogged metal in a rule, under a lever with a fork, raised out of or plunged into the two cups, to break or close at pleasure the galvanic circuit.

9th. *A system of signs for numerals*, being dots and spaces, indicated by V shaped characters.

These were some of the parts and their combination, that had been tested in 1835; and they constituted the Telegraph apparatus planned on board the Sully, in 1832, but not the " whole plan." There was one part then deemed essential to the practical use of the *whole plan*, to wit: the Dictionary or Vocabulary, which had not been added, and without which the exhibition of the apparatus to the public would have been unsatisfactory; and, if *numerals only* had continued to be the signs marked, it was an indispensable part.

In elaborating the invention in its early stages, many modifications of its various parts were tried, and many of the supposed improvements, then deemed necessary to its perfection, have since been found unnecessary and useless. I had devised, for example, as an improvement, a new mode of shaping and applying the paper on which the characters are marked, to take the place of the strip or ribbon first used in the telegraph instrument of 1835. The ribbon, however, has since proved to be the best in practice; but this modification was then deemed by me necessary to my " whole plan." This supposed improvement consisted in applying the paper in a sheet over a cylinder, and in so adjusting the marking upon it, that when the sheet was removed from the cylinder, it would form a regular page "prepared for binding into a volume." This is not only alluded to in my caveat, but also in my letter to the Secretary, and was the *actual mode of marking* on the paper in the first exhibitions of the Telegraph to Congress, and the result was satisfactory.

An *Alarum* was another part thought to be essential to the " whole plan." It was early planned, but not attached to the first instrument of 1835. It was attached to the new instrument as early as September, 1837, and exhibited at the Franklin Institute, Philadelphia, as early as February, 1838, and also to Congress, in the beginning of the same year, 1838.

The *Bascule*, or pole-changer, was another device thought at this time also to be necessary to perfect my " whole plan." It was devised to prevent an imagined and possible difficulty, to wit:—the retention of magnetism in the magnets, by the constant flow of the current in one direction. This was the earliest part discarded as unnecessary, after the filing of the caveat; and was, indeed, never operated in connection with the other apparatus. When the " whole plan" was tested, it comprised a new instrument, substantially built, with a Dictionary specially prepared and numbered to the amount of some 52,000 words, and a new Register, with the sheet of paper on a cylinder instead of the strip or ribbon, together with a greater length of wire than had been previously tried, and an *Alarum:* these, in addition to the parts of the first instrument of 1835, which I have enumerated, constituted the " whole plan" spoken of. Is there, therefore, any difficulty in reconciling the statements that my telegraph was constructed in its essential particulars and was practically operated in 1835, while it is also stated that my whole plan, with the view I then entertained of what constituted my " whole plan," was not tested till the autumn of 1837? Does it neutralize the fact that *enough* was constructed in 1835, to demonstrate the practicability of the Telegraph, because I considered at the time of entering my caveat, that *more than enough* was required to complete my whole plan, and that experience has since proved these additions to be superfluous?

Study does not always result in simplicity—it very often encumbers a simple thought or process with complication. Such was the case here. The truth is, *the child was born, and breathed, and spoke*, in 1835. It had then *all the essential characteristics of the future man.* The fact that I afterwards considered it not in a condition to live unless it were clothed with certain shapes and superfluities of dress, since proved to be encumbrances, and so laid aside, surely does not prove that the true and living child, on that account, was not then born.

Respectfully, your obedient servant,
SAM'L. F. B. MORSE.
Po'keepsie, December 1852.

Col. Speed's Lines, &c.

One of the most intelligent and energetic personages connected with Western Telegraphing, is Col. JOHN J. SPEED, Jr., now of Detroit, but formerly of Ithaca, in the State of New York. He was the most active opponent of Mr. O'Rielly, during the conflicts resulting from the unfortunate collisions between Mr. O'R. and the Morse Patentees, in reference to Contracts and Patents. The Lines known as Speed's Lines have been managed with prudence, fidelity, and energy, under difficulties which, for the sake of all concerned, (including the whole Public,) we hope never again to see repeated.

We are promised a statement of the extent and condition of the Lines with which Col. Speed has been connected—including the Lines in which he is associated with Mr. CORNELL and Mr. WADE. And in publishing that statement, it will afford us pleasure to express more fully our sentiments respecting the troubles he has encountered in bringing his Lines to the respectable and efficient condition on which they are now established. A communication from Col. Speed, concerning his experiments on Batteries, will be found elsewhere in this Magazine.

Meantime, we copy from the Cincinnati Gazette a statement respecting the course of Col. Speed since the settlement of the difficulties which have long embarrassed, but which, it is hoped,will not longer embarrass, the Telegraph Enterprise; for the *public interest*, as well as the interest of all concerned in the Telegraph Companies, requires a cessation of the conflicts which have so long prevented the Telegraph from attaining the degree of perfection which the welfare of Society imperatively demands:—

From the Cincinnati Gazette, Nov. 29.

Henry O'Rielly, Esq., whose mighty energies extended the Telegraph with a rapidity almost equal to its own magic powers, and who has sustained for five years an uninterrupted fight with the Morse Patentees, in almost all the Courts of the Union, has finally effected an amicable settlement with the Patentees, and obtained the undisputed right to construct lines of Telegraph, using the Morse Patents west of the Ohio. *Col. Speed*, of Detroit, who acted as the Attorney of the Morse Patentees in the commencement of suits against O'Rielly at the West, and under whose auspices the Morse lines have been greatly extended, is now acting in concert with Mr. O'Rielly in the construction of new lines, and in harmonizing the working of lines now in operation. We do not envy the position of that man who attempts to fight both those gentlemen at the same time. We understand that some of our Indiana friends have put themselves in that position—Guess they will have a good time of it.

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"Abuse" of the Telegraph—Once more.

Statement of Messrs. Smith and Bailey.

In the preceding numbers of this Magazine, we published some articles respecting the operations of a certain few of the Telegraphers, who were (and it seems yet are) employed on the short line between Philadelphia and Pittsburg, belonging to the Atlantic and Ohio Telegraph Company, which line was originally constructed by Mr. O'Rielly for that company, and is now managed by Mr. James D. Reid, as Superintendent, under the direction of the Company; forming part of a range, known as "National" Telegraph Lines.

Those articles contained allegations, that certain Telegraphers at Philadelphia and Pittsburg, employed on the range thus superintended by Mr. Reid, had been detected in selling the private dispatches belonging to the New York Associated Press, to several papers or News Agents, and pocketing the money received for them. We said in our former notice of this disreputable affair, that we believed that James D. Reid, Superintendent of the Line, on being put in possession of the facts, promptly discharged the delinquents. We are now informed that the above reference to Mr. Reid is erroneous.

Mr. Bailey, now Chief Telegrapher in New York office of the "New Orleans Coast Line Telegraph," and Mr. Charles T. Smith, a gentleman well known in the telegraph business, have taken occasion to inform us of the material facts in the case, which were pretty correctly stated by us before, except so far as they referred to Mr. Reid's course of action.

At the time the "News Robbery" was being perpetrated, Mr. Smith informs us that he was Chief Operator in the New York Office of theAtlantic and Ohio Line, that Mr. Bailey was his assistant, and that on his getting possession of conclusive evidence, in the *handwriting* of the *conspirators*, that certain persons at Philadelphia and Pittsburg, employed on the same line with himself, had conspired together, to defraud some of the customers of the Company, by feloniously *exposing* and *selling* their private dispatches to other and rival parties, he at once presented the whole matter to Mr. Reid, who *refused* to take any action in regard to it; when he, Smith, determined that the affair *should* be noticed, presented it to the Board of Directors of the Company, who *did* act upon it, by promptly discharging the delinquents.

But it is not a little surprising to learn, as we do from Messrs. Smith and Bailey, that the very persons thus removed for grossest cause, were immediately *re-employed* by James D. Reid, and that they are still employed in their former confidential and responsible positions—positions which they eminently disgrace.

We have already had occasion to remark, that the Telegraph business demanded the fullest confidence of the public: it cannot be sustained without it. But how can business men repose confidence in a line, which employs agents that have been detected in abusing the trust reposed in them, in feloniously disposing of the information paid for by, and belonging to others, to replenish their own pockets? As well might the Post-Master General, continue a deputy in office, who had been convicted of robbing the mail, and ask the Public to believe that their letters would be safe in his hands.

Telegraph Superintendents, certainly, cannot *know* that their employees are all honest. They are liable to be imposed upon. But surely they *can* avoid employing persons who have shown themselves dishonest and unworthy of confidence.

The Telegraph business, as at present conducted, is susceptible of great abuses—many of which are very difficult of detection:—But when gross and flagrant outrages are detected, and proved to have been committed, the Public, as well as all honorable men engaged in the business, have a right to demand that the delinquents receive some more signal evidence of the disapprobation of the Company which employs them than a *sham* removal one day, to be followed by a re-appointment the next. A few such experiments on the good nature of the Public would not probably increase the business of the line or augment its quarterly dividends. It may be an unpleasant and an ungracious task to discuss such matters: But it is a necessary one, and we shall not shrink from it.

We have no disposition or intention to injure in any way the parties connected with the transactions above referred to. Such a proceeding would be foreign to our purpose, and unnecessary. But we shall, in this or any other similar case, call public attention to any Telegraph Company or Telegraph Superintendent that (for personal or any other reasons) retain persons in places of trust and responsibility, whom they *know* to be unworthy of confidence.

If in any case we err in our statements, our columns are open to correction: But, in this matter, our informants are every way reliable, and hold the *positive proof*, written *telegraphically by the persons implicated*, of the truth of what they say.

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Important Experiments with Magneto-Electric Batteries.

The following communication from Col. Speed, of Detroit, will be found interesting. We believe he has made the first and only really successful application of Magneto-Electricity to Telegraphic purposes. He seems to believe it quite possible that Magneto-Electricity may be less affected by bad insulation than Galvanism is, and his experiment certainly tends to confirm such an opinion. We shall look with considerable interest to any further experiments by Col. Speed, or others, tending to demonstrate the comparative merits and value of different batteries. Few men have labored more enthusiastically in Telegraphing:

Col. Speed's Experiments on Batteries.

Detroit, 10th Dec. 1852.

To the Editor of the Telegraph Magazine:

Several articles have appeared in your paper relative to the use of Magneto-Electricity for the working Telegraph lines, in place of Galvanic Electricity now used; and in your last number you refer to an experiment made at Detroit by Mr. Baily. The trial of a permanent magnet, with revolving helices, at Detroit, was made by Mr. Charles Ford and myself, at my suggestion, in January, 1851, with a magnet made by Mr. Baily for Mr. Ford, for another purpose.

The magnet used was of steel, ten inches in length, with two helices, about the size of those used in the Morse Relay Magnet. It was tried on our Western line, between Detroit and Kalamazoo, a distance of 150 miles.

With a five cup Grove battery at Kalamazoo, and the steel magnet at Detroit, the line worked as well as it did with a Grove battery at each end: With the battery off at Kalamazoo, he got Detroit's writing very well; but it required a nice adjustment for Detroit to get Kalamazoo's writing.

The night we tried the experiment, it rained very hard all the afternoon and evening, and our line was in bad order, as many of the insulators were off. Under such circumstances it was a matter of surprise to me to be able to get Kalamazoo's writing at all, with no battery at that end, and nothing but the steel magnet at this. I have not had time since to repeat the experiment, but think it highly probable that Magneto-Electricity may be substituted for Galvanic Electricity in working Telegraph lines; especially if it shall be found on trial, that Magneto-Electric currents require less insulation. I do not assert this as a fact; but, from the experiments I have made, I am induced to believe that it may be so, altho' contrary to the generally received opinion that all secondary currents are of high intensity, and require the best possible insulation.

The only objection to the use of permanent magnets as a substitute for the galvanic battery, is the cost of the gearing, and the winding up of a weight sufficient to revolve the helices.

Respectfully, J. J. SPEED, JR.

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American Patent System, and the abuses thereof.

The statements of the Hon. Edmund Burke, late Patent Commissioner (quoted in the first number of the Telegraph Magazine), are having a salutary effect in arousing public attention to a thorough consideration of the abuses of the Patent System and the Patent Office.—It is evident, from his statements, that stringent legislation is required to secure to honest inventors a just reward for their efforts, assailed as those efforts are by corruption even in *the Patent Office* itself.

The enemies of inventors are *not* the public at large—for the people generally wish to see justice done, and to have ingenuity properly rewarded. But the *real* enemies, as most inventors find, are the *owners of Patents*, who, having acquired wealth themselves, endeavor by bribery, corruption, or "whatever other means may promise success," to prevent either competition or improvement which may diminish the profits of their monopoly.

Mr. Burke's statements referred particularly to the corruptions connected with the re-issue of the Woodworth Patent for Planing Machines. But, if there was corruption shown in that case, it is not impossible that similar villainy may be practiced in many others.

These planing-machine operations, touching as they do the pockets of every man who treads upon a boarded floor, have excited particular attention throughout the length and breadth of the land; and it is not wonderful, therefore, that considerable interest is manifested respecting the nature of the combination by which the owner of the Woodworth Patents was lately induced to "stipulate," as the newspapers say he actually stipulated, that neither he nor "his assignees should hereafter prosecute the owners or agents of the Beardslee machines, for any infringement of the Woodworth Patents!!!"

Is this another of the profligate and cowardly bargains which inventors too often make with monopolists, to crush and destroy other inventors in the same line of business? and was the Beardslee Patent too weak to stand upon its own merits, without an alliance with the Woodworth Monopoly? Or has the person who, in season and out of season, denounced the renewals of the Woodworth Patent as corrupt schemes for defrauding the public out of their just rights, and for the oppression and destruction of any person who should have ingenuity enough to perfect a better invention—has he also become one of the allies or instruments of the Monopoly against which he formerly denounced "eternal warfare?" We pause for a reply; and shall look with increased interest for Congressional action upon Patent questions.

In the meantime, we refer our readers again to the pregnant statements of Ex-Commissioner Burke, which last winter excited the attention and astonishment of the New York and other State Legislatures, and which are worthy the serious attention of the whole American People.

We refer to these matters especially, as the movements of the Planing-Machine Monopolists have, for several years, tended to influence Patent Legislation in a manner seriously affecting *Telegraphers*, as well as the public generally.

Management of Western Corporations.

The extent to which Eastern capitalists have become interested in Western Railroads and other Corporations, renders it particularly important to Western interests that entire *good faith* shall be manifested by the Western officers upon whom devolve the management of the vast amount of stocks and money passing through their hands.

One such piece of villainy as was lately attempted at Indianapolis by a few of the officers and resident stockholders of an incorporated Company, for the purpose of sacrificing the interests of Eastern owners of stock, had it not been promptly frowned down by responsible men living at that place, would have given a serious shock to confidence on the part of Eastern and European capitalists, holding millions of interest in the various Stocks of the State of Indiana and other Western States. We forbear saying more on this subject, till we see clearly what is done (or doing) to wipe out the stain occasioned by the attempted rascality.

Relevant to this matter, we may copy a couple of paragraphs indicating the suspicion which is attached to the conduct of a western City Corporation, even in our own State, for practicing a not very creditable trick upon people who subscribed for its stock:

[From the Rochester Daily American.]

The New York *Express* has the following in reference to the course taken by our Common Council, in the sale of the City Rail Road Bonds:

"The conduct of the Common Council of Rochester, in first obtaining bids in this city, and afterwards awarding their loan of $100,000 to parties at home, at a trifling advance over the bids in this city, has been severely animadverted upon. The brokers in this city who undertook to bring the loan on the market, should not have allowed themselves to be used for such an object."

(From the Same.)

THE R. R. BONDS AGAIN.—A correspondent of the N. Y. *Journal of Commerce*, writing from this city, among other things says, "I understand that an injunction has been served on the Mayor, restraining him from issuing the bonds at all; and the probability is that the loan will fall to the ground. The citizens are not satisfied with the course that has been pursued, and think that the Common Council have shown themselves to be great boobies."

The Bangor Whig states that Rev. Prof. Pond, of the Bangor Theological Seminary, has been recently delivering a course of lectures before the students, against Phrenology, and against the doctrines now universally prevalent, that the brain is the organ of the mind.

"Great Men never Die."

While our last No. was passing to the Press, on the 16th of November, the whole people of the American Commercial Metropolis, without distinction of sect or party, were moving sadly to the obsequies of Daniel Webster. Eulogy upon the illustrious dead would be presumptuous on our part, when his simple name excites recollections of intellect, and patriotism, and eloquence, that furnish their own enduring monument.

It is aptly remembered by one of our editorial brethren, that, in the oration delivered by Webster in Faneuil Hall, on the death of Adams and Jefferson, the orator tells us—and his words have now full application to himself—that "great and good men never die."—

"Adams and Jefferson, I have said, are now no more. As human beings, indeed they are no more. They are no more, as in 1776, bold and fearless advocates of independence; no more, as on subsequent periods, the heads of the government; no more, as we have recently seen them, aged and venerable objects of regard and admiration. They are no more. They are dead. But how little is there of the great and good which can die! To their country they yet live, and live, and live forever. They live in all that perpetuates the remembrance of men on earth; in the recorded proof of their own great actions; in the offspring of their intellect; in the deep engraved lines of public gratitude, and in the respect and homage of mankind. They live in their example, and they live, emphatically, and will live in the influence which their lives and efforts, their principles and opinions, now exercise on the affairs of men, not only in their own country, but throughout the civilized world. A superior and commanding human intellect, a truly great man, when heaven vouchsafes so rare a gift, is not a temporary flame, burning bright for a while and then expiring, giving place to a returning darkness. It is rather a spark of fervent heat, as well as radiant light, with power to enkindle the common mass of human minds; so that when it glimmers in its own decay, and finally goes out in death, no night follows, but it leaves the world all light, all on fire, from the potent contact of its own spirit. Bacon died; but the human understanding, roused by the touch of his miraculous wand to a perception of the true philosophy, and the just mode of inquiring after truth, has kept on its course successfully and gloriously. Newton died; yet the courses of the spheres are still known, and they move on in the orbits which he saw and described for them in the infinity of space."

NOTE.—The article of Professor Morse, promised (at page 114), to be given in the *January* number of the Magazine, is actually given in the present number, at pages 127-8-9, &c.; as it reached us earlier than we anticipated.

The Song of the Telegraph.

I have heard men say that when winds were high,
And clouds were tossing about the sky,
Journeying over some lone morass,
Where the endless wires of the telegraph pass,
They have stood, and listened, and trembled with fear,
The song of the telegraph to hear.—
A sad and most unearthly strain,
A sharp, low moan, like a soul in pain,
Rising and falling fitfully,
Like the long waves after a storm at sea.
I have thought and wondered many a time
What the wire would say, could it speak in rhyme;
And thinking much, and wondering long,
At length have found the telegraph's song.

Lo, the golden age is come!
  Light has broken o'er the world!
Let the cannon mouth be dumb,
  Let the battle-flag be furled!
God hath sent me to the nations,
  To unite them, that each man
Of all future generations
  May be cosmopolitan.

I, the lightning—the destroyer—
  I, the untameable, the proud—
To be harnessed to the wire,
  I have left my thunder-cloud.
Harbinger of peace and union,
  Messenger no more of wrath,
To establish sweet communion
  Down to earth I take my path.

With the olive branch extended,
  Swift I go to every shore;
Soon all nations shall be blended,
  They shall learn of war no more.
Peace and progress be for ever
  Printed on the hearts of men,
So that future time may never
  See a battle-field again.

Soon beneath the deep Atlantic,
  Far below the swelling wave,
Will my still small voice be passing
  To the land that owns the slave.
Shame, oh, shame! that starry banner
  Doth not yet the stripe disown:
Shame, that great name be degraded
  With the lash, the chain, the groan!*

Now, the world is growing better,
  Now that progress leads the van,
Is it not a strange injustice,
  To enslave a fellow man?
Are ye not the world's free traders,
  Ye yourselves the brave, the free?
Rise—annihilate this horror,
  This foul stain of slavery!*

The Assyrian is forgotten,
  And the old race of the Nile,
And we stand amid their ruins
  Gazing on each wondrous pile;
And the glory is departed
  From the bright Hellenian shore;
And though Rome is still in being,
  Yet the Roman lives no more.

But Britannia stands for ever,
  Throned upon the eternal seas
Nailed, to every mast, her banner
  Floats for ever on the breeze;
And we laugh at our old quarrels,
  All our foolish deeds of yore;
We are older grown and wiser,
  We are children now no more.

Let America with England
  Hand in hand uphold the "right,"
Be their path the path of progress
  And their fame shall know no blight;
For they are the noblest nations
  That the sun hath ever blest—
Brave Old England and her children,
  In the broad lands of the West! [Eng. Paper.

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* An *American* Telegraph song might keenly retort these sarcasms, by reference to the worse than African bondage and degradation of millions of white-faced slaves groaning under the influence of British tyranny.—*Editor.*

Professor Morse's Deposition.—The Result of the Suit.

The large portion of this number of the Telegraph Magazine which is devoted to the publication of Professor Morse's statement, as that statement was submitted to the U. S. Court for the Eastern District of Pennsylvania, will not be grudged by any reader who desires to "hear all sides" of the important questions under consideration.

The result of the suit in which this deposition was taken, is already generally known among Telegraphers. The Court (Judge Kane presiding) decided in favor of Morse on nearly all points, and consequently decreed an injunction against the Bain instruments as infringements on Morse's patents. The controversy between the Lines was finally compromised by a union of both under the patents of Morse and the charter of *the* "Magnetic Telegraph Company"—which latter name is the *rather broad* designation of the primitive Morse Line between New-York and Washington, now rejoicing under the presidency of "Mr. Swain, of the Ledger."

The line of telegraph proposed to be laid down from the Hague to the English coast, has already been carried from the Hague to Schevinengen; but the wire will not be thrown across the channel till next year, owing to the boisterous state of the weather. It is stated that the line will terminate at Lowestoft, and not at Harwich, as at first intended.

The Hartford *Courant* says there stands on the "Charter Oak Place," owned by Hon. L. W. Stuart, an Apple Tree imported in 1638 by George Wyllys, and which is therefore at least two hundred and fourteen years old. It is an English Pearmain. The past season it bore quite liberally; and a small branch on which is a number of apples, has been preserved in spirits and presented to the Historical Society.

Pay Your Postage.—A New Hampshire editor commends the following terrible lines to some of his correspondents, "who have forgotten good manners in writing upon their own business, and saddled him with a postage of five cents to save themselves three:"

The man that now-a-days will write,
  And not prepay his letter,
Is worser than the heathens are,
  What don't know any better;
And if you take a fine-tooth comb,
  And rake down "all creation,"
You couldn't find a meaner man
  In this 'ere mighty nation.

American Telegraph Magazine.

NEW YORK, DEC. 15, 1852.

DEFERRED ARTICLES.

In consequence of the large amount of interesting matter pressing on our columns for publication, we have been obliged to defer, until the January number, the following among other articles:

1. Extracts from and comments on that part of the Census relating to Telegraphing in the United States.
2. Notices of Western Telegraph lines—Speed's, Wade's, and others.
3. Reasons why Western Lines have not sooner paid dividends; with reasons showing that, with proper management, they can and will pay large profits.
4. Telegraph Literature—Reports, Addresses, &c.
5. Prof. Morse's "Talking Telegraph."
6. Answer to inquiries as to management, present condition, and future prospects of the "People's Telegraph Line," between Louisville and New Orleans.
7. Telegraphs in California—two Lines now being construeted.
8. Telegraphs in Australia and other countries.
9. Deposition of Professor Henry.

Persons Wishing to Advertise,

Will find their interest in publishing notices in the advertising department of the American Telegraph Magazine—circulating as it does, among a class of persons occupying important positions, and scattered all over North America. (See rates of advertising.)

To Telegraphers.

Good Telegraphers, wishing to change their positions, or obtain situations, may find it to their interest to advertise in the American Telegraph Magazine. By an advertisement in this number it will be seen that some Telegraphers are wanted, "to learn and work the House System."

A new and simple method of protecting submarine electrical conductors has just been invented by Mr. T. Allan, of Edinburgh. The exterior protecting iron wires are placed longitudinally, instead of spirally, as is done in the Dover and Calais rope, and yet are quite flexible. By this means, about one half the quantity of protecting wires will give a greater security against a longitudinal strain upon the copper conductors than can be attained when the wires pass spirally around them. The process, too, is less costly than the former one.

National Telegraph Convention.

NOTICE.

MORSE'S AMERICAN TELEGRAPH.—TO ALL LINES IN AMERICA.—For the purpose of consummating a unity of action in such affairs of the Telegraph System as may be deemed material to the common interest, the undersigned propose a meeting of the representatives of all the Telegraph Lines in America working the Morse System of Telegraph, at WASHINGTON CITY, March 5th, 1853.

It is useless to enlarge upon the necessities requiring a general meeting of the kind designated above, and unnecessary to add what can or would be submitted for consideration in the premises, except that we have in view a joint action through this Convention on such matters as may be of interest to the lines in common, without regard to the special interest of any given line or connection.

The signals and abbreviations of lines differ—the counting of words frequently disagree—the style and manner of operating and doing business generally are as diversified as there are powers to create, and there are doubtless many points that can be acted upon by a Convention, which would redound to the weal of all lines, without any disturbance of their pecuniary affiliation or respective interests.

The undersigned are the representatives of but a portion of the lines in America, and it is desirable to have a representation from as many of the lines as possible. Such as desire to unite in the Convention aforesaid are requested by their Presidents or Superintendents to notify either of the undersigned, by letter, of their willingness to cooperate in the same.

AMOS KENDALL,
Pres't. Western Telegraph Company.
WM. M. SWAIN,
Pres't. The Magnetic Telegraph Co.
F. O. J. SMITH,
Pres't. Boston and Portland Tel. Co.
T. S. FAXTON,
Pres't. N. Y., A. and Buffalo Tel. Co.
ELAM ALEXANDER,
Pres't. W. and N. O. Tel. Co.
H. M. SCHIEFFELIN,
Pres't. N. Y. & N. E. U. Telegraph Co.
HENRY O'RIELLY.
WILLIAM TANNER,
Pres't. N. O. and Ohio Telegraph Co.
TAL. P. SHAFFNER,
Pres't. St. Louis and N. O. Tel. Co.
ISAAC M. VEITCH,
Pres't. St. Lonis and Mo. R. Tel. Co.
J. H. WADE,
Pres't. Cleve., Cin. and St. L. Tel. Co.
A. C. GOELL.
President of the Philadelphia and Wilkesbarre Telegraph Company, and also the Susquehanna River and N. and W. Branch Telegraph Company.
JOHN J. SPEED, Jr.
Of Erie and Michigan Tel. Co.
Philadelphia, September, 1852. Nov.—tf.

Telegraphers Wanted.

Five or six practical (Morse or Bain) Telegraphers wanted, to learn and work the House System. None but men of established reputation need apply. Good wages will be paid, if the applicants become successful operators.

Nov.—tf. J. McKENNEY,
New York.

Law & Knevitt's

AMERICAN AND EUROPEAN AGENCY,
For Procuring and Disposing of Patents, Transacting Legal Business, &c., &c.,
52 JOHN STREET,
New York.

S. D. LAW,
G. M. KNEVITT.

REFERENCES.

Hon. R. H. GILLET, 52 John St., New York.
Messrs. DEPPERMANN & ALBURTIS, New York.
CHARLES LAMING, Esq., Clichy, Paris.
G. H. EVANS, Esq., 118 Fenchurch st., London.
ALEX. BAIN. Esq. (inventor of Telegraph), London.
Messrs, MANN, FOSTER & MANN, Liverpool.
Messrs. OLIVER & WILKINS, 31 St. Swithen's Lane, & 3 Rue Brederoden, Bruxelles. Dec. tf.

Telegraph Clerk Wanted.

One who is well acquainted with the city, and has had an experience of not less than six months in registering and preparing dispatches for delivery. Apply to box 82, Post Office. Nov.—tf.

American Crystal Palace.

City of New York,

For the Exhibition of the Industry of all Nations.

The attention of the Telegraphers through the Union is directed to the Circular of Mr. Sedgwick, President of the Association—containing particulars of the proposed Exhibition. Dec.—tf.

Situation Wanted.

A good practical Telegrapher, now employed on an important Southern Line, desires a location in a Northern latitude—the State of New York preferred. Satisfactory testimonials furnished. Address XYZ, care of Editor American Telegraph Magazine. Dec.—tf.

Telegraph Materials.

Persons desiring any articles connected with Telegraphic operations, are referred to the advertisements of Norton's Telegraph Rooms, on the last page of the cover of the American Telegraph Magazine. Dec.—tf.

AMERICAN TELEGRAPH MAGAZINE.

☞Terms *Two Dollars* a year, invariably in advance.

ADVERTISING.

6 lines, one insertion, ...	0	50
10 do do	0	75
14 do do	1	00
Half page, one insertion, ...	5	00
One page, do do	10	00
Less than half a page, a year, per line,	1	75
Half page, per year, ...	50	00
One page, " "	100	00

It is particularly requested, that all addressing orders to me would write in a plain hand the name in full of the Town or Post-Office, County and State, to which they wish their answers forwarded.

Subscribers are authorized and requested to send bank notes or change by mail, at my risk, provided it is done in the presence of the Post Master, and the letters are franked.

☞Post Office Stamps taken at their value. These are the most convenient to send, and there is no discount upon them.

All communications and remittances intended for this Office, in order to secure attention, should be *post paid*.

☞All letters addressed (*post paid*) to DONALD MANN, Editor Telegraph Magazine, New York.

NORTON'S TELEGRAPH ROOMS,

177 Broadway, New York.

The attention of Telegraph companies throughout the United States and British Provinces, is respectfully invited to my stock of magnetic and chemical Telegraph apparatus, which will be found extensive and complete.

My facilities for manufacturing and forwarding with promptness and dispatch, whatever may be required to supply the wants in the offices or on the lines, are unequaled by any establishment in the country. The most careful attention will be given to the quality of my goods, being convinced that a reputation for good articles is the most enduring and in the end most profitable; at the same time I shall aim to keep constantly on hand, not only every article required in the business, but also every variety of such articles.

My arrangements, both abroad and at home, are such that I think I can offer English and American wire upon as reasonable terms as it can be found in the market.

Register Paper, Porus Cups, Platina, Nitric and Sulphuric Acid, Battery Tumblers, Insulators of every description, Gutta Percha covered office and river Wire, silk and cotton covered Wire, and every article connected with the business, not manufactured by me, will be sold at manufacturer's prices. I am also prepared to furnish to order Communication Headings, Record Books, and Envelopes, printed in the neatest and most economical manner.

Morse Registers, $30, $35 and $40.
Relay Magnets, $10, $12½ and $15.
Key, $5; Key with circuit closer $6.
Bulkley's Protector from Lightning, $3 50.
Carey's do do $7 00,
Zincs, 8 cents per pound.

A new article of office wire, much superior (and containing in a pound double the length of Gutta Percha office wire), $1 per pound.

I have recently added to my manufactory an electro plating and gilding department, and am prepared to give the highest style of finish and ornament to the instruments furnished. I am also prepared to carry out any original design, alteration or improvement in the construction of instruments, &c., which may be suggested by the taste of the purchaser.

Every person connected with the Telegraph, is desirous of seeing it improved, and every inducement thereto will be held out by me, to the ingenious operator and mechanic. It is my intention to add to my stock every valuable improvement (as soon as the necessary arrangements can be made), and any person that may have made, or at any future time constructs, any instrument that can materially benefit the working of the Telegraph, is solicited to address me (post-paid.)

Those companies that have heretofore employed agents to make their purchases in this city, will be enabled to save that expense by sending their orders direct to me; as it is my intention to keep constantly on sale, at the lowest prices for cash, every article used in the construction and working of a line of Telegraph.

Goods can be forwarded to any town in the United States and British Provinces (provided said town has connection by express with New York), and the money collected on their delivery. Persons will do well, when in places that have no such connection, to have what they order forwarded to the nearest express town.

The subscriber, having become the proprietor of Bulkley's patent

ELECTRO-MAGNETIC ENUNCIATOR,
OR
HOTEL TELEGRAPH,

Would respectfully call the attention of those interested in Hotels and Steamboats throughout the country, to the universal satisfaction it has given, wherever it has been put up. It is rapidly taking the place of the Mechanical Enunciator, its great superiority being apparent to any person that will examine it.

J. W. NORTON,
177 BROADWAY, N. Y.

ACIDOMETERS,

FOR TESTING WITH PERFECT ACCURACY THE STRENGTH OF ACIDS.

No Telegraph Office should be without them.

FOR SALE BY

J. W. NORTON, 177 Broadway, New York.

LECTURES ON THE TELEGRAPH,

BY LAWRENCE TURNBULL, M. D.

Lecturer on Technical Chemistry at the Franklin Institute.

"We have a great number of works on the Telegraph and Electrical apparatus, but this is the best and ablest of them all. It contains a brief history of telegraphing, and gives descriptions with illustrations, of all the important telegraphs in use; also, those which have been illustrated in other works. Those who wish to be posted up on telegraphs must consult this book."—*Scientific American.*

Price $1 50—or fifty postage stamps remitted by mail.
For sale by JOHN W. NORTON, 177 Broadway.

ATLANTIC AND PACIFIC TELEGRAPH RANGE.

DEDUCTION

OF

HENRY O'RIELLY'S TITLE

TO THE USE OF

Morse's Patents in Certain Regions.

ATLANTIC, LAKE AND MISSISSIPPI LINES,

(Being the first division of the Atlantic and Pacific Telegraph,)

Constructed under Arrangements of Henry O'Rielly:

[The first Section of which, between Lancaster and Harrisburg, was the first Section of equal extent ever completed by individual enterprize in 1845.]

DEDUCTION OF HENRY O'RIELLY'S TITLE

TO THE USE OF

MORSE'S PATENTS IN CERTAIN REGIONS.

No. I.—(June 13, 1845.)

Contract of June 13, 1845, between the Morse Patentees and Henry O'Rielly.

ARTICLES OF AGREEMENT

FOR EXTENDING THE ELECTRO-MAGNETIC TELEGRAPH FROM THE SEABOARD TO THE MISSISSIPPI AND THE LAKES.

This memorandum of an agreement between Henry O'Rielly of the one part, and Samuel F. B. Morse, Leonard D. Gale, Alfred Vail and Francis O. J. Smith, of the second part, witnesseth as follows:

That the said O'Rielly undertakes on his part, at his own expense, to use his best endeavors to raise capital for the construction of a line of Morse's Electro-Magnetic Telegraph, to connect the great Seaboard Line at Philadelphia, or at such other convenient point on said line as may approach nearer to Harrisburg in Pennsylvania, and from thence through Harrisburg and other intermediate towns to Pittsburg; and thence through Wheeling and Cincinnati, and such other towns and cities as the said O'Rielly and his associates may elect, to St. Louis, and also to the principal towns on the Lakes.

In consideration whereof, the said parties of the second part agree and bind themselves, their representatives and assigns, that, when the said O'Rielly shall have procured a fund sufficient to build a line of one wire from the connecting point aforesaid to Harrisburg, or any points farther west, to convey the patent right to said line so covered by capital, in trust, for themselves and the said O'Rielly and his associates, on the terms and conditions set forth in the "Articles of Agreement and Association constituting the 'Magnetic Telegraph Company,' and providing for the government thereof," with the following alterations, viz:—The amount of stock or other interest in the lines to be constructed, reserved to the grantors and their assigns, shall be one fourth part only, and not one half of the whole, on so much capital as shall be required to construct a line of two wires; but in all cases of a third wire, or any greater number, the stock issued on the capital employed on such additional wire or wires shall be divided equally between the subscribers of such capital and the grantors of the Patent Right, or their assigns. No preference is to be given to the party of the first part and his associates in the construction of connecting lines, nor shall any thing herein be construed to prevent an extension, by the parties of the second part, of a line from Buffalo to connect with the Lake Towns at Erie; nor to prevent the construction of a line from New-Orleans, to connect the western towns directly with that city; but such lines shall not be used to connect any western cities or towns with each other, which may have been already connected by said O'Rielly.

In case of a sale of the entire Patent Right to the Government, the grantors shall be bound to pay the actual reasonable cost of the lines constructed under this agreement, with twenty per cent. thereon, and no more, to vest the Government with the entire ownership of such lines—provided, as specified in the Articles of Agreement of the "Magnetic Telegraph Company," the purchase be made or provided for by Congress before the 4th of March, 1847, (eighteen hundred and forty-seven.)

The tariff of charges on the lines so constructed, shall conform substantially to the tariff of charges on the great Seaboard Line before named, and in no case to be so arranged as to render the lines unequal in this respect, to the prejudice of either.

Unless the line, from the point of connection with the seaboard route, shall be constructed within six months from date to Harrisburg, and capital provided for its extension to Pittsburg, within said time, then this agreement, and any conveyance in trust that may have been made in pursuance thereof, shall be null and void thereafter; unless it shall satisfactorily appear that unforeseen difficulties are experienced by said O'Rielly and his associates in obtaining from the State Officers of Pennsylvania the right of way along the public works; and in that event, the conditional annulment shall take effect at the end of six months after such permission shall be given or refused. And any section beyond said last point, embraced within the purview of this agreement, which shall not be constructed by said O'Rielly and his associates, within six months after said parties of the second part shall request said O'Rielly to cause such lines to be constructed, so as to extend the connection at least one hundred and fifty miles beyond said last point, and in like ratio during each succeeding six months thereafter—*then*, in relation to all such sections of the Line, this agreement shall be null and void, provided that such request shall not be made prior to the 1st day of April next, (1846.)

And the party of the second part shall convey said patent right, on any line beyond Pittsburg, to any point of commercial magnitude, when the necessary capital for the construction of the same shall have been subscribed within the period contemplated by this agreement, by responsible persons, and not otherwise.

Done at the city of New-York, this 13th day of June, in the year of our Lord eighteen hundred and forty-five.

(Signed,)

HENRY O'RIELLY,
FRANCIS O. J. SMITH,
SAM. F. B. MORSE,
L. D. GALE, by his Attorney, S. F. B. Morse.

Nos. II. III. and IV.—(June 22, 1847.)

Contracts between the several Parties of the Morse Patentees,

(Having Reference to a Settlement of Difficulties with Henry O'Rielly.)

AGREEMENT.—I.

F. O. J. SMITH WITH HIS PARTNERS MORSE & VAIL.

Know all men by these presents, that I, Francis O. J. Smith, in consideration of conveyances to me made this day by Samuel F. B. Morse and Alfred Vail, through their attorney, Amos Kendall, of their interest in the Letters Patent of said Morse, and of all existing Contracts between them and said Smith of the one part, and other parties, pertaining to and for the construction of a line or lines of Telegraph on the route from Philadelphia to Harrisburg, Pittsburg, Wheeling, Columbus, Cincinnati, and Louisville, and thence by any route that shall be selected by said Smith to St. Louis; and also any other three lines that shall hereafter be selected by said Smith, to connect said line with the Buffalo and Milwaukie line, conveyed to said Smith this day—said Smith hereby sells, transfers, assigns, and makes over to said Morse and Vail, their representatives and assigns, an amount of stock and right of certificates to represent the same, that shall be hereafter issued upon the *several divisions* of said first described line, as follows, viz: three-sixteenths of all such issues of stock under the authority of said Morse's Letters Patent on the two first wires between Philadelphia and Pittsburg; and one-half of three-eighths, or three-sixteenths, of all that shall be so issued to represent the interest of the grantors of the Patent on each wire additional to the two first wires between said points, and three-fourths of three-eighths of all stock that shall be so issued on the two first wires between Pittsburg and St. Louis; and a like proportion of all such stock as shall be issued to represent the interest of the grantors of the Patent in each and any wire additional to the two first wires; and the respective boards of trustees, or other officers or agents that are or shall be constituted or authorized to issue such stock, are hereby empowered and requested, for me, and in my place and stead, and as the sole owner of the Patentees' interest in the construction of said lines, to issue to said Morse and Vail or their assigns, the proportion as aforesaid of said stock, as soon and as fast, and in like manner, as the like certificates are issued to other parties entitled to have and receive the same upon the same lines; and said issues are to be in full consideration and payment of the before-named conveyances (so far as it relates to the first route herein named) to me by said Morse and Vail, of their interest as patentees. And said Smith hereby covenants and agrees to pay said Morse and Vail, for the aforesaid three cross lines, at the rate of thirty-seven and one half dollars per mile, by instalments of twenty-five per cent. of the amount that shall be raised or provided for the construction of the same respectively, and whenever and as fast as the same shall be raised and provided for them respectively, until said sum of thirty-seven and one half dollars per mile shall have been fully paid to said Morse and Vail.

In testimony whereof, I have set my hand and affixed my seal, at the city of New-York, on this 22d day of June, 1847.

In presence of } FRANCIS O. J. SMITH, [L. S.]
J. J. SPEED, JR. }

AGREEMENT.—II.

S. F. B. MORSE & A. VAIL, BY THEIR ATTORNEY KENDALL, WITH F. O. J. SMITH.

Know all men by these presents, that we, Samuel F. B. Morse and Alfred Vail, by our attorney in fact, Amos Kendall, in consideration of the assignment and transfer to us by Francis O. J. Smith of certain stock to be hereafter issued in the "Washington and New-Orleans Telegraph Company," and in certain other Telegraph Companies, this day executed, and of certain undertakings and guarantees of the said Smith pertaining to the Telegraph routes hereinafter mentioned, contained in his agreement with us of this date, do hereby bargain, sell, release and convey, unto the said Smith, all our right, title, and claim, joint or several, now held by us as owners or assignees of Morse's Patent, or as a party or parties to any contract or contracts by us or either of us heretofore entered into, in and to the use of Morse's Electro-Magnetic Telegraph, including all improvements which have been made thereon since the date of Morse's original Patent, and all which may be made by us hereafter, on the following lines of communication, viz:—From Buffalo, in the State of New-York, to Erie, in the State of Pennsylvania; thence through Cleveland, in the State of Ohio, to Detroit, in the State of Michigan; thence through Chicago, in the State of Illinois, to Milwaukie, in the territory of Wisconsin; embracing such other intermediate places as to the said Smith shall seem proper; also, from Philadelphia, through Harrisburg, to Pittsburg, all in the State of Pennsylvania; thence through Wheeling in the State of Virginia, Columbus and Cincinnati, in the State of Ohio, to Louisville, in the State of Kentucky; and thence, through, by such route as may be selected by said Smith, to St Louis, in the State of Missouri; embracing such other intermediate places as to the said Smith may seem proper: also, any three lines or routes, or connecting lines, between said first two lines, that the said Smith may hereafter select—to have and to hold the said Smith, his representatives and assigns, during the existence of Morse's Patents pertaining thereto, and all patents which may hereafter be obtained by us or either of us, in renewal thereof or auxiliary thereto.

Witness our hands and seals, by our attorney aforesaid at the city of New-York, this 22d day of June, A. D. 1847.

In presence of } SAMUEL F. B. MORSE, [L. S.]
E. CORNELL, } ALFRED VAIL, [L. S.]
J. J. SPEED, JR. } *By their Attorney, Amos Kendall*

AGREEMENT.—III.

CONTRACT FOR DIVISION OF TERRITORY BETWEEN THE MORSE PATENTEES.

These presents witnesseth, that Samuel F. B. Morse and Alfred Vail, by their Attorney, Amos Kendall, of the first part, and Francis O. J. Smith, of the second, being sole owners of Morse's Letters Patent of the Electro Magnetic Telegraph in the United States, have agreed and hereby doth agree to and with each other for the better and more effective management of their joint interests remaining unsold, or not under contract for sale, as follows:

That said Smith shall have full and exclusive power to bargain, sell and convey any and all routes for the construction and use of said Morse's above-named patents, and of all his improvements thereto, not hitherto sold or placed under contract, within the following territory, to wit—in all of the territory of the United States bounded on the South by the route extending from Pittsburg to St. Louis, via Wheeling, Columbus, Cincinnati and Louisville, thence to St. Louis by any route said Smith shall elect, and on the West and North by the Western and Northern boundaries of Illinois, Wisconsin, Michigan, and Ohio, and on the East by the eastern boundary of Ohio to the intersection of the Telegraph route from Wheeling to Columbus, opposite Wheeling; also all within the boundaries of New-York and the New-England States. And that said Kendall, in like manner, shall have full and exclusive power for and in behalf of the first party, to bargain, sell, and convey any and all other routes for the construction and use of said Morse's patent, not hitherto sold, or placed under contract, within all the remaining territory of the several States of the Union now existing.

And the sales of each party within his said territory, made pursuant to the provision of these presents, shall be ratified and concurred in by the other party, from time to time, as may be required, and by due and legal process of conveyance.

The manner of disposing of such lines and realizing cash therefor, shall be such as the respective parties shall in their discretion think best for the common interest; and each shall account to the other for monies realized by him, whether from absolute sales or participation in the profits of construction, or in any other mode out of the common property: *Provided*, that neither shall be bound to account to the other for more than fifty dollars per mile, on any route, as the aggregate belonging to the owners of the patents.

The terms of payment for sales made, shall be twenty-five per cent. of the amount that shall be raised and paid as the first instalment, for construction purposes on the route sold, and a like proportion of every succeeding instalment until the aggregate shall have been paid. And no contract or sale shall be made to extend the omission of the first payment longer than nine months from the date of the contract, or to delay any succeeding instalment beyond the period of sixty days from the prior one. And no conveyance of the Letters Patent for any route shall be made, until the entire price of purchase has been paid.

Neither of said parties shall charge for his personal services, or expenses of himself, or of any agent he may employ, nor incur any liability in behalf of the other party, in effecting such sales beyond the requisite terms of a conveyance.

A report shall be made by each party to the other at the end of every September, December, March and June, of all sales made by him during the quarter so ending. And of all payments received on sales, and such other particulars as either party may require. And payments shall then be made by each to the other, of all collections on the joint interests of said parties up to such periods, as follows:

Said Smith shall pay said first party three-fourths of all such collections on sales as he shall have made, and of sums of money any way realised as aforesaid, deducting therefrom ten per cent for commissions. And said Kendall shall pay said second party one-fourth of all such collections on sales as he shall have made, and of all sums so as aforesaid realised, deducting therefrom ten per cent for commissioners.

And it is agreed that the arrangement herein stipulated for the management of said interests within the territorial divisions herein described, shall continue in full force between said parties and their legal representatives, for the period of six years from the date hereof, unless sooner revoked by mutual consent.

In testimony whereof, said parties have hereunto affixed their respective seals, at the City of New-York. in duplicate parts, on this twenty-second day of June, one thousand eight hundred and forty-seven.

In the presence of [the words "Thence to St. Louis by any route said Smith shall elect" on first page between 14th and 15th lines, interlined before execution]
J. J. SPEED, JR.
E. CORNELL.

SAM'L F. B. MORSE, [L. S.]
ALFRED VAIL,
By their Attorney,
AMOS KENDALL, [L. S.]
FRANCIS O. J. SMITH, [L. S.]

No. V.

Settlement of certain Differences between the Morse Patentees and Henry O'Rielly.

AGREEMENT.—(DECEMBER 2, 1851.)

WHEREAS, differences have arisen in the execution and fulfilment, by the parties thereto, of a certain contract made and entered [illegible] New-York on the

evidence of settlement that should be so made of said claim by said Smith with said O'Rielly:

And whereas, by virtue of the rights and powers thus acquired by said Smith of [illegible] of the rights

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Agreements between the Morse Patentees for Settling with Henry O'Rielly.

Additional (or Fourth) Agreement between the Morse Patentees, of date June 22d, 1847,

For saving said Patentees harmless "from and against all claims or liabilities which Henry O'Rielly has or may establish against them."

AGREEMENT—(June 22d, 1847.)

Francis O. J. Smith with Morse and Vail, to indemnify against O'Rielly, and to settle O'Rielly controversy.

These presents witnesseth, that, for valuable and mutual considerations, Francis O. J. Smith, of the first part, and Samuel F. B. Morse and Alfred Vail, by their attorney, Amos Kendall, of the second part, hath agreed and promised to and with each other, as follows:—

The said Smith shall secure and hold harmless the said party of the second part from and against all claims or liability which Henry O'Rielly has or may establish upon the said two parties, by virtue of any contract made heretofore with said O'Rielly by said Morse, Vail and Smith in conjunction with L. D. Gale, touching the right to construct Telegraph lines under said Morse's Letters Patent, and to cause all of said O'Rielly's claim aforesaid to be settled amicably or judicially, as soon as may be, without recourse by said Smith to said Morse and Vail for aid, assistance, contribution of costs, or expenses that may hereafter in any way accrue touching the premises. But said Morse and Vail shall, if necessary, concur in the execution os any writing, conveyance, or evidence of settlement that shall be made of said claim, consistently with the undertakings of said Smith herein set forth, and shall, if required, put at the disposition of said Smith all correspondence between said Morse and Vail and their attorney, Amos Kendal, with said O'Rielly and his associates, touching the premises aforesaid, and shall give to the said Smith all information in the possession of said Morse and Vail or their said attorney, relating to said matter.

And if from any cause other than the judicial vacation of Morse's Patent for the Electro-Magnetic Telegraph, the said Smith shall be unable to control stock on the Philadelphia, Pittsburgh, Louisville and St. Louis line of Telegraph, this day, in the extent of their interest, sold and conveyed to him by said Morse and Vail, sufficient to pay the consideration stipulated to be paid therefor, and in addition thereto, stock on the Pittsburgh and Louisville portion of said line sufficient to meet deficiences, if any, in the consideration to be given for the line from Buffalo through Detroit, and Chicago to Milwaukie this day, to the extent of their interest sold and conveyed to said Smith, by said Morse and Vail, the said Smith covenants and binds himself to pay said consideration or any deficiency in either or both cases in other Telegraph stocks of equal value, or in cash, at his option: and should any difference of opinion arise as to the value of the stocks thus to be substituted, or as to the amount to be paid, the point or points in dispute shall be submitted to three arbitrators, one to be selected by said Morse and Vail, and one by said Smith, and the third by the two so appointed, and the parties hereto bind themselves to abide by and carry into effect the award of them or a majority of them.

Witness our hands and seals at the city of New-York, this 22d day of June, A. D., 1847.
In presence of J. J. SPEED, Jr.

(Signed) FRANCIS O. J. SMITH,
SAMUEL F. B. MORSE,
ALFRED VAIL,
By their Attorney,
AMOS KENDALL,

Nos. II. III. and IV.—(June 22, 1847.)

Contracts between the several Parties of the Morse Patentees,

(Having Reference to a Settlement of Difficulties with Henry O'Rielly.)

AGREEMENT.—I.

F. O. J. SMITH WITH HIS PARTNERS MORSE & VAIL.

Know all men by these presents, that I, Francis O. J. Smith, in consideration of conveyances to me made this day by Samuel F. B. Morse and Alfred Vail, through their attorney, Amos Kendall, of their interest in the Letters Patent of said Morse, and of all existing Contracts between them and said Smith of the one part, and other parties, pertaining to and for the construction of a line or lines of Telegraph on the route from Philadelphia to Harrisburg, Pittsburg, Wheeling, Columbus, Cincinnati, and Louisville, and thence by any route that shall be selected by said Smith to St. Louis; and also any other three lines that shall hereafter be selected by said Smith, to connect said line with the Buffalo and Milwaukie line, conveyed to said Smith this day—said Smith hereby sells, transfers, assigns, and makes over to said Morse and Vail, their representatives and assigns, an amount of stock and right of certificates to represent the same, that shall be hereafter issued upon the *several divisions* of said first described line, as follows, viz: three-sixteenths of all such issues of stock under the authority of said Morse's Letters Patent on the two first wires between Philadelphia and Pittsburg; and one-half of three-eighths, or three-sixteenths, of all that shall be so issued to represent the interest of the grantors of the Patent on each wire additional to the two first wires between said points, and three-fourths of three-eighths of all stock that shall be so issued on the two first wires between Pittsburg and St. Louis; and a like proportion of all such stock as shall be issued to represent the interest of the grantors of the in and to the use of Morse's Electro-Magnetic Telegraph, including all improvements which have been made thereon since the date of Morse's original Patent, and all which may be made by us hereafter, on the following lines of communication, viz:—From Buffalo, in the State of New-York, to Erie, in the State of Pennsylvania; thence through Cleveland, in the State of Ohio, to Detroit, in the State of Michigan; thence through Chicago, in the State of Illinois, to Milwaukie, in the territory of Wisconsin; embracing such other intermediate places as to the said Smith shall seem proper; also, from Philadelphia, through Harrisburg, to Pittsburg, all in the State of Pennsylvania; thence through Wheeling in the State of Virginia, Columbus and Cincinnati, in the State of Ohio, to Louisville, in the State of Kentucky; and thence, through, by such route as may be selected by said Smith, to St Louis, in the State of Missouri; embracing such other intermediate places as to the said Smith may seem proper: also, any three lines or routes, or connecting lines, between said first two lines, that the said Smith may hereafter select—to have and to hold the said Smith, his representatives and assigns, during the existence of Morse's Patents pertaining thereto, and all patents which may hereafter be obtained by us or either of us, in renewal thereof or auxiliary thereto.

Witness our hands and seals, by our attorney aforesaid at the city of New-York, this 22d day of June, A. D. 1847.

In presence of	SAMUEL F. B. MORSE, [L. S.]
E. CORNELL,	ALFRED VAIL, [L. S.]
J. J. SPEED, JR.	*By their Attorney, Amos Kendall*

mile, on any route, as the aggregate belonging to the owners of the patents.

The terms of payment for sales made, shall be twenty-five per cent. of the amount that shall be raised and paid as the first instalment, for construction purposes on the route sold, and a like proportion of every succeeding instalment until the aggregate shall have been paid. And no contract or sale shall be made to extend the omission of the first payment longer than nine months from the date of the contract, or to delay any succeeding instalment beyond the period of sixty days from the prior one. And no conveyance of the Letters Patent for any route shall be made, until the entire price of purchase has been paid.

Neither of said parties shall charge for his personal services, or expenses of himself, or of any agent he may employ, nor incur any liability in behalf of the other party, in effecting such sales beyond the requisite terms of a conveyance.

A report shall be made by each party to the other at the end of every September, December, March and June, of all sales made by him during the quarter so ending. And of all payments received on sales, and such other particulars as either party may require. And payments shall then be made by each to the other, of all collections on the joint interests of said parties up to such periods, as follows:

Said Smith shall pay said first party three-fourths of all such collections on sales as he shall have made, and of sums of money any way realised as aforesaid, deducting therefrom ten per cent for commissions. And said Kendall shall pay said second party one-fourth of all such collections on sales as he shall have made, and of all sums so as aforesaid realised, deducting therefrom ten per cent for commissioners.

And it is agreed that the arrangement herein stipulated for the management of said interests within the territorial divisions herein described, shall continue in full force between said parties and their legal representatives, for the period of six years from the date hereof, unless sooner revoked by mutual consent.

In testimony whereof, said parties have hereunto affixed their respective seals, at the City of New-York. in duplicate parts, on this twenty-second day of June, one thousand eight hundred and forty-seven.

In the presence of [the words "Thence to St. Louis by any route said Smith shall elect" on first page between 14th and 15th lines, interlined before execution]
J. J. SPEED, JR.
E. CORNELL.

SAM'L F. B. MORSE, } [L. S.]
ALFRED VAIL, }
By their Attorney,
AMOS KENDALL, [L. S.]
FRANCIS O. J. SMITH, [L. S.]

No. V.

Settlement of certain Differences between the Morse Patentees and Henry O'Rielly.

AGREEMENT.—(DECEMBER 2, 1851.)

WHEREAS, differences have arisen in the execution and fulfilment, by the parties thereto, of a certain contract made and entered into at the city of New-York, on the thirteenth day of June, A. D. 1845, by and between Henry O'Rielly, of the first part, and Samuel F. B. Morse and others, of the second part, relative to the construction and use of lines of Magnetic Telegraph, under Letters Patent granted to said Morse and his assigns:

And whereas, by a certain contract in writing made and entered into at the said city of New-York, of the 22d day of June, A. D. 1847, by said Morse and Alfred Vail, of said second part, acting by their attorney Amos Kendall, and Francis O. J. Smith, also of said second part, the said Morse and Vail, for a valuable consideration, did bargain, sell, release, and convey unto said Smith all their right, title and claims, joint or several, as original owners or as assignees in and to said first-named contract, and in and to the use of said Patents, including all improvements which had been or might be made by them, on the following lines of communication, viz.: from Buffalo, in the State of New-York, to Erie, in the State of Pennsylvania; thence through Cleveland, in the State of Ohio, to Detroit, in the State of Michigan; thence through Chicago, in the State of Illinois, to Milwaukie, in Wisconsin; embracing such other intermediate places as to the said Smith should seem proper: also, from Philadelphia through Harrisburg to Pittsburg, all in the State of Pennsylvania; thence through Wheeling, in the State of Virginia, Columbus and Cincinnati, in the State of Ohio, to Louisville, in the State of Kentucky; thence through, by such routes as might be selected by said Smith, to St. Louis, in Missouri—embracing such other intermediate places as to the said Smith might seem proper: Also, any three lines or routes, or connecting lines, between said two first lines, that the said Smith might thereafter select:—to have and to hold the same to him, the said Smith, his representatives and assigns, during the existence of Morse's Patents pertaining thereto, and all patents which might thereafter be obtained by said Morse and Vail, or either of them, in renewal or auxiliary thereto:

And whereas, by a second and other contract and writing, of the same date as last aforesaid, made by and between the said Morse and Vail, by their attorney Amos Kendall, of the one part, and said Smith of the other part, the said Smith obligated himself and agreed to cause all of said O'Rielly's claims upon the said parties growing out of or by virtue of said before-named contract, to be settled amicably or judicially, as soon as may be, without recourse to said Morse and Vail, and the said Morse and Vail obligated themselves and agreed to concur, if necessary, in the execution of any writings, conveyance, or evidence of settlement that should be so made of said claim by said Smith with said O'Rielly:

And whereas, by virtue of the rights and powers thus acquired by said Smith of the one part, and of the rights and powers of the said O'Rielly of the other part, touching said premises, and to adjust and settle said contract, and all claims, disputes and differences relating to or growing out of the same, including all suits and processes at law heretofore instituted touching any of said premises, in the States of Pennsylvania, New-York, and Ohio, and pending in said States and in the Supreme Court of the United States; which suits shall be dismissed without cost, taxed by either party—the said Smith and O'Rielly have, on this 2d day of December, A. D. 1851, at the city of New-York, amicably agreed and united upon the following terms and understandings, and respectively obligate and bind thereto, each on his own part, himself, his heirs, representatives and assigns, to wit:

1st. The said O'Rielly obligates and agrees to cause to be paid to said Smith or his order—and for this purpose, by powers of attorney, of even date herewith, authorizes the said Smith to demand, collect, and receive, in lieu of all costs and damages that have accrued to him as original party or assignee of and under the first contract described above, and for differences arising therefrom—one fourth part of all the net earnings, whether declared or not declared heretofore as dividends, or otherwise, to this date, of all and of each of the several lines of Telegraph constructed by him, or held by companies organized under contracts with him on each of the routes described or contemplated in the said first-named contract above, and whether the said lines have been in the charge of companies or individuals.

And the said Smith, on his part, agrees thereupon, and in consideration of such payment first being made, and of these premises, to refund to said O'Rielly twenty per cent. or one fifth part of said sum which he shall receive and collect; also to execute unto any legal company that shall be free of debt, and designated by said O'Rielly, a deed of transfer and conveyance of the right to use on said route or line last named said Morse's patented inventions aforesaid, for and during the existence of such letters patent therefor as have been or shall be granted to the said Morse or his assigns, in renewal of or auxiliary to the said Morse's existing letters patent aforesaid; said company, in consideration therefor, and as a condition of such deed of transfer, shall issue to said Smith, or his order, on demand, an amount of stock and right of certificates to represent the same on the line extending from Philadelphia to Pittsburg, as follows: four sixteenths of all such issues of stock as shall be made by such company, under the authority of said Morse's patent, on the two first wires between said points. And further, said Smith shall execute, or cause to be executed, a like deed of transfer and conveyance to any company or companies said O'Rielly shall designate, they being free of debt, the right to use as aforesaid said Morse's patented inventions for and during the existence of such patents, and of all renewals and auxiliary patents thereto which he shall obtain, between Pittsburg aforesaid and St. Louis; said company or companies respectively, and in consideration therefor, and as a condition of such deed, shall issue to said Smith, or his order, on demand, for and to represent the interest of the grantors of the patent on the two first wires between said points, certificates of stock to the amount of one fourth of all stock that shall be created and issued on said first two wires that are or shall be constructed between said last points, and one half part of all such stock that shall be issued on each and any wire additional to the first two wires; and all the remainder of the stock issued by said company or companies shall be issued to the stockholders who have contributed or shall contribute to the construction of such lines, in proportion to their respective interests. And further, said Smith shall execute unto any legal company or companies that shall be free from debt, that shall be designated by said O'Rielly for the purpose, a like deed or deeds of the right to use said Morse's patented inventions aforesaid, and for the period aforesaid, *between any and all points* where said O'Rielly has constructed or caused to be constructed heretofore, a line or lines of Morse's Telegraph, and within the territorial limits hereinafter specified: the conditions of each of said deeds shall be, that the grantees therein shall issue to the said Smith, or his order, representatives or assigns, to represent the interest of the grantors of the Patent on the first wire of such line, one fourth of all stock that shall be issued by said grantees on said first wire; and one half of all additonal stock that shall be issued by such grantees shall be issued to said Smith or his representatives as aforesaid, to represent the interest of the grantors of the patent on each wire so added.

2d. In lieu of all *costs and damages* that have accrued to said O'Rielly under and by reason of said first-named contract and the differences arising therefrom, the said *O'Rielly shall have* FULL AND EXCLUSIVE POWER to construct ALL and as many lines of said Telegraph, with full right and power to use said patentee's inventions thereon, as he shall procure capital therefor, auxiliary to, or independent of, lines heretofore constructed by him, or that shall be acquired by him, as is by these premises contemplated, on the following terms and conditions, and within the territorial limits hereinafter described, to wit:

Said O'Rielly shall cause to be legally organized a company of stockholders, which company shall be free from debt, to receive each line constructed on the completion thereof, *on such terms*, as to cost of construction inclusive of the Patent-right, *as said O'Rielly* and the stockholders of said company *shall agree*:—And thereupon said Smith shall make, or cause to be made, a conveyance of the right to use said Patent rights upon such Lines of Telegraph by said Company, on condition that an amount of stock equal to one fourth part of the capital stock of such company shall be issued to said Smith or his order, for the use and benefit of the Proprietors of said Patents, their representatives, or assigns, in the ratio of their ownership and mutual contracts, and to represent the interest of the grantors of the patent in such line, which capital, so aggregated, shall represent the first wire of such company; and for the second, and each additional wire, one half part of the stock added to such capital shall be issued to said Smith or his order, for the purposes aforesaid; and all the remainder of said stock shall be issued to the contributors of capital and said O'Rielly for constructing said lines.

3d. The territorial limits within which the provisions of these presents shall operate to *secure to the said O'Rielly* THE EXCLUSIVE POWERS HEREIN CONTEMPLATED, shall be as follows, viz.:—The territory lying within a drawn line extending from Detroit, in Michigan, to Toledo; thence by the Wabash River to the point where the National Road crosses said river; thence by said road to Vandalia, in Illinois; thence to St. Louis; and thence by the valley of the river Des Moines, or otherwise, through Iowa, by such route as shall be found most advantageous for the extension of a telegraphic communication, to intersect Lake Superior at or near Fondulac; thence along the national boundary line, through Lakes Superior and Huron, to Detroit, the first point mentioned above.

4th. That the provisions of these premises shall continue in force for and during the period of seven years, during which period said O'Rielly binds himself, and agrees to devote and contribute, by himself and responsible agents and representatives, his best efforts and ability, and all necessary labor, for the vigorous extension and construction of lines of telegraph within said territory, and without aid to, or interest in, or arrangement with, directly or indirectly, any other lines or system of telegraphing than are herein contemplated, and within said territorial limits, during the continuance of these presents; and to conduct his said undertakings without expense to said Smith, or said Morse or Vail, at any time or in any manner: *And these presents witnesseth,* that said O'Rielly hereby exonerates and releases the said Morse and Vail from all claim or liability to claim to him, the said O'Rielly, or his representatives, for aid, assistance, contribution of cost or expenses that have in any way accrued touching the contract of June 13th, 1845, herein first described, subsequent to the 22d day of June, A. D. 1847, or that may hereafter accrue, touching the premises; and hereby cancelling and dissolving into these presents, all and several, the provisions, undertakings and promises of each party, made and entered into by said last-named contract; and nothing herein contained shall be construed to authorize said O'Rielly, or his agents or representatives, to create any charge or indebtedness of the said Morse, Vail or Smith, jointly or severally, for or on account of these premises, or otherwise, in the construction of any telegraph line as aforesaid, or in conducting the business thereof; nor incur any indebtedness whereby the rights of the Proprietors of said Patents shall be impaired or prejudiced.

But the said O'Rielly shall have power and is hereby authorized to settle and adjust, on such terms as he shall deem proper, all claims pertaining to said Patent rights existing within the territory hereinbefore described, and created by the construction of lines of telegraph by any person or persons or company not having full and ample authority therefor first had in writing from said Smith personally, or his agents accredited, in writing: Provided, however, that in every such settlement, the same consideration in the stock of the line, freed from debt, shall be secured to said Smith or his order, for the use of the Proprietors of the Patent Right, as is hereinbefore provided, in respect to lines hereafter to be constructed by said O'Rielly; and deeds of the patent for such lines shall be made by said Smith accordingly as may be required.

5th. If any company or persons in the possession of any line of telegraph heretofore constructed by said O'Rielly or agents under him, and using the inventions of said Morse, shall refuse, upon reasonable notice for that purpose, to comply with the terms and provisions of these premises in respect to the payment of the fourth part of the net earnings of said line to said Smith, or in respect to the conveyance of the right to use said Morse's inventions, and to the issuing of stock therefor as herein contemplated; said Smith, as also said Morse and Vail, shall severally and jointly thereupon stand released and acquitted of all right on the part of such persons or company to demand and receive thereafter any conveyance as aforesaid by virtue of any of the provisions of these presents, or of the first and original contract herein described.

But the proprietors of said patents shall be and are hereby authorized and empowered to proceed against and prosecute such persons or company, by suits at law or in equity, as trespassers, and for infringement upon the rights of said Proprietors, in the same manner and to the same extent as they might or could do had said first contract or these presents never been made; such proceedings or prosecutions being exclusively at the expense and for the benefit of the Proprietors of said Patents.

6th. The said O'Rielly hereby further promises and agrees that the several lines of telegraph heretofore constructed by or under him north and west of the lines extending from Philadelphia to St. Louis shall, as soon as practicable, and without unnecessary delay, including also all lines described in the fourth article of these presents constructed by the parties without due authority, and for which he shall make settlements as in said fourth article is contemplated, shall be organized under companies, duly empowered, by virtue of the deeds herein provided to be made by the said Smith, and without expense to the said Smith or the other Proprietors of said Patents; and that all lines hereafter constructed pursuant to these presents shall be organized under companies duly constituted therefor, and vested with the title to the use of said Patents before being opened or dedicated to use: And said O'Rielly shall furnish to the said Smith or his representatives, for the proprietors of the patents, a full exhibit and account semi-annually, on the first day of January and of July in each year, of the lines of telegraph constructed, or put under contract for construction by him during the six months next preceding, with such other and further information relating to the premises as said Proprietors may require within the meaning of these presents.

7th. The tariff of charges on the lines embraced within the purview of this settlement shall conform substantially to the tariff of charges of the great Seabord Lines; and in no case to be so arranged as to render the lines unequal in this respect to the prejudice of either; and as far forth as shall be found practicable and advantageous, the lines that have been constructed by said O'Rielly, or that may be so constructed, shall be consolidated under the fewest boards of managers and companies; and the companies contemplated by these presents shall be either legal corporations, or where charters therefor shall not have been obtained, they shall consist of joint-stock associations organized substantially for the government of their affairs as was the "Magnetic Telegraph Company," at its inception between Washington City and New-York.

8th. It is further mutually agreed, that, in case of any difference of opinion or claims that shall hereafter arise between the parties to these presents, or their representatives, or any persons having rights under them involved herein, as to the true construction and meaning of any of the provisions hereof, or respecting the rights or obligations of any such party, the same shall from time to time be adjusted finally and conclusively in each case, by reference thereof, upon the request of either party, to the decision of such umpire or umpires as shall be designated by the Judge for the time being of the Circuit Court of the United States, for the Southern District of the State of New-York; and in case either party shall neglect to appear upon reasonable notice given therefor by the umpire so appointed to decide such difference, it shall be competent for such umpire to proceed *ex parte*, and in like manner as above, his decision shall be final and conclusive; and these presents shall thereupon become null and void thereafter at the option of the attending party.

9th. And it is further stipulated that the said O'Rielly shall have power and right to complete the Line from Dayton to the junction of the Wabash and Miami Canal and river; and also the lines from Indianapolis to Madison and Jeffersonville, and from Indianapolis to Terre Haute, on the same terms as the main line from Pittsburg to Louisville in respect to apportionment of stock to the grantors of the Patents to represent their interest therein.

In testimony whereof said parties have hereunto interchangeably set their hands and affixed their seals, on this second day of December, A. D. 1850, at the City of New-York.

In presence of

Before signing and sealing of the preceding instruments, said parties have mutually agreed to a modification thereof, as follows:—

That the said Smith, on his part, further agrees, upon the receipt of the one fourth part of the stock above provided to be issued to said Smith on the several lines of telegraph heretofore constructed by or under the arrangements of said O'Rielly, twenty per cent. of such fourth part shall be transferred to the order of said O'Rielly by said Smith, and the remainder of said fourth part shall be retained by said Smith to represent the interests of the grantors of the patents in such lines of telegraph.

As witness our hands, on the day last aforesaid.

(Signed) HENRY O'RIELLY.
(Signed) FRANCIS O. J. SMITH. [L. S.]

In presence of
JAMES F. FOSS.

No. VI.—(August 12, 1852.)

Power of Attorney from Morse Patentee to Henry O'Rielly.

To whom it may concern: This is to certify, that I make Henry O'Rielly, Esq., of the City of New-York, my sole and exclusive agent, for the term of twelve months from date, to dispose of any and all interests I have in Morse's Patents for Electro-Magnetic Telegraphs and Electric Telegraphs, in the State of Ohio, and all States north and west of the Ohio, on routes not already built upon, and not inconsistent with rights previously conveyed and granted; and upon such terms as he may judge to be for my interest, he compensating himself without recourse to myself for his services in the premises.

My rights consist in the absolute ownership of one fourth part of all patents granted to said Morse, and with the agreement that he "will execute and deliver good and sufficient deeds of transfer of said parts and of all rights and property incident thereto: Also, in said Morse and Alfred Vail's contract for division of territory, dated June 22d, 1847, of which you have a copy—subject only to the temporary injunction granted in the case of said Morse and Vail against me, by the Supreme Court of the State of New-York in the City of New-York.

And I will ratify any thing you may do in the premises, within the limits of authority above described, and within the above-named period,—trusting to your knowledge of my interests, and your fidelity, for my recompense and protection. FRANCIS O. J. SMITH.

Portland, Me., August 12, 1852.

No. VII.—(December 25, 1852.)

Sale to John J. Speed, Jr., of certain Privileges concerning Morse's Patents on unoccupied Routes in certain Regions.

Whereas, By an agreement bearing date the twenty-second day of June, 1847, between Samuel F. B. Morse and Alfred Vail of the first part, and Francis O. J. Smith of the second part, (they being, as claimed in said agreement, sole owners of Morse's Letters Patent of the Electro-Magnetic Telegraph in the United States,) it was agreed by and between the said parties, among other things, that said Smith should have full and exclusive power to bargain, sell, and convey any and all routes for the construction and use of said Morse's above-named Patents and of all his improvements thereto, not then hitherto sold or placed under contract, within the following territory, to wit, in all the territory of the United States bounded on the south by the route extending from Pittsburg to St. Louis, via Wheeling, Columbus, Cincinnati, and Louisville—thence to St. Louis by any route said Smith should elect; and on the west and north by the western and northern boundaries of Illinois, Wisconsin, Michigan, and Ohio; and on the east by the eastern boundary of Ohio to the intersection of the Telegraph Route from Wheeling to Columbus, opposite Wheeling; also all within the boundaries of New-York and the New-England States: And it was also thereby agreed that Amos Kendall, agent of the said parties of the first part, should have like power in the other States: And it was provided in said agreement that the manner of disposing of such lines, and realizing cash therefor, should be such as the respective parties should in their discretion think best for their common interest; and neither of said parties should charge for his personal services or any agent he might employ: And it was further provided that no conveyance of the letters patent for any route should be made until the entire price of purchase shall have been paid; as by the agreement aforesaid, duly sealed by the said parties and recorded in the United States Patent Office on the 26th day of July, 1850, will more fully appear:

And whereas, the said Francis O. J. Smith then was and now is the owner of one fourth part or share of the said Patent Rights, and of the Letters granted to secure to the inventor an exclusive right to said inventions:

And whereas, the said Francis O. J. Smith, by his power of attorney dated Portland, Maine, August 12, 1852, made and constituted Henry O'Rielly, of the city of New-York, his sole and exclusive agent for the term of twelve months from the date thereof, to dispose of any and all interests he, the said Francis O. J. Smith, then had in Morse's Patents in Electro-Magnetic and Electric Telegraphs, (meaning the inventions and patents aforesaid,) in the State of Ohio, and all States west and north of the Ohio, on routes not then built upon, and not inconsistent with rights previously conveyed and granted; and on such terms as he, the said O'Rielly, might judge to be for his, the said Smith's interest—he compensating himself without recourse to the said Smith for his services in the premises—the said Smith setting forth, in the said power of attorney, that his rights consisted in the absolute ownership of one fourth part of all patents granted to said Morse, and also in said Morse and Vail's contract with said Smith for division of territory, (being the same agreement first above referred to,) dated 22d day of June, 1847, as by said Power of Attorney (reference being thereunto had) will more fully appear:

Now, therefore, this agreement, made this 25th day of December, in the year 1852, between Samuel F. B. Morse, Alfred Vail, and Francis O. J. Smith, of the first part, and John J. Speed, Jr., of Detroit, of the second part,

Witnesseth, That the said Samuel F. B. Morse, Alfred Vail, and Francis O. J. Smith, of the first part, by their agent and attorney in fact, the said Henry O'Rielly, for and in consideration of the sum of *three thousand dollars*, paid and payable as hereinafter agreed, have granted, bargained, sold, assigned, released, and conveyed, and by these presents do grant, bargain, sell, assign, release, and convey unto the said party of the second part, his executors, administrators, and assigns, the full and exclusive right, within the territory hereinafter described, to make, use, and vend to others, to be used on Lines of Telegraph, all such telegraphic instruments as under the letters patent aforesaid the said parties of the first part, or any of them, have or may have the right to make or vend—but this grant being limited to the territory following, and not extending to any other whatever, to wit: The State of Ohio, and all States north and west of the Ohio River, and the instruments to be used on Telegraphic Lines within those States:

To have and to hold all and singular the property and rights hereby granted and conveyed unto the said party of the second part, his executors, administrators, and assigns, for and during all the period and periods, term and terms of time, to come, for which the said patent rights and letters patent shall be good and effectual.

And the said party of the second part, for and in consideration of the grant and assignment aforesaid, and of the license herein contained, has, before the sealing and delivery of these presents, paid to the said parties of the first part in cash the sum of two hundred dollars, the receipt whereof by the said Henry O'Rielly, agent as aforesaid, the said parties of the first part hereby acknowledge; and as further part of the consideration aforesaid, the said party of the second part hereby covenants and agrees with the said Morse, Vail and Smith, to pay to them on or before the fifth day of July, in the year 1853, at the office of Henry O'Rielly, in the city of New-York, the sum of twenty-eight hundred dollars, the said Morse, Vail and Smith then and there, by a good and effectual deed, under their own hands and seals, confirming this agreement, and making the same effectual to all intents and purposes, as a conveyance of all their rights under said Letters Patent, within the territory last described, as said rights are now held by said parties or any of them, and which said conveyance the said parties shall deliver on payment or tender of the money herein agreed to be paid.

But it is provided nevertheless and agreed, between the said parties, that this instrument shall not be operative as a grant of the Patent Right until payment shall have been made or tendered, as herein provided, of the whole of the consideration money hereby agreed to be paid; and if the said party of the second part shall be desirous of paying the same before the time or times herein limited for the payment thereof, he shall give to the said O'Rielly, or to the said Morse, Smith and Vail, notice in writing, to be served personally or by being deposited in the Post-office, addressed to the party notified at his usual place of residence, at least ten days before the time proposed for such payment, of the time when such payment shall be made; and that a confirmatory grant as above provided will then be required of the said Morse, Smith and Vail.

In the mean time, and until default shall be made in any payment hereby agreed to be paid, this instrument shall be operative as a license to make, use, and vend to be used, the said telegraphic instruments, but no further. And if default shall be made in the payment of either of said sums of money herein agreed to be paid by the said party of the second part, all the rights under this instrument shall, from the time of such default, be suspended until such default shall be remedied by payment of all moneys that shall have become payable, together with all interest and costs thereon.

The rights hereby intended to be conveyed, and to be made effectual, without any further grant, or other thing to be done, save payment or lawful tender of the money aforesaid, are all and singular the rights under said letters patent within the territory last above described, which under the said agreement of June 22d, 1847, and the said power of attorney of said Francis O. J. Smith to the said Henry O'Rielly, he, the said Henry O'Rielly, has good right and lawful authority in the name of said parties of the first part, or any of them, or in any other mode, to convey, but no other.

It is expressly understood and agreed between the said parties, that nothing herein contained shall be taken to impair or conflict with any contracts in relation to said patents or in relation to telegraph lines heretofore made by the said parties, or any of them.

And it is further provided and agreed, that the said party of the second part shall well and truly execute and perform a certain agreement made by the said O'Rielly with the Southern Michigan and Northern Indiana Railroad Company, the party of the second part receiving from the said Railroad Company or Companies the payment stipulated for building said Telegraph line, and which said contract, with all rights thereto belonging and pertaining, has been assigned to the said party of the second part.

Witness our hands and seals, this 25th day of December, 1852.

J. H. WADE. Witness.
SAMUEL F. B. MORSE, [L. S.]
ALFRED VAIL, [L. S.]
FRANCIS O. J. SMITH, [L. S.]
By their Attorney in fact, Henry O'Rielly.

No. VIII.—(December 31, 1852.)

Authority for Constructing Telegraph Lines under the foregoing Titles.

THIS INDENTURE, made this thirty-first day of December, one thousand eight hundred and fifty-two, WITNESSETH,

That I, Henry O'Rielly, for and in consideration of the sum of five dollars, to me in hand paid by John J. Speed, Jr., have assigned, transferred, and set over, and by these presents do assign, transfer, and set over, to the said John J. Speed, Jr., his executors, administrators, and assigns, the right to build or construct, or to authorize to be built and constructed, TELEGRAPH LINES in the STATES NORTH AND WEST OF THE OHIO RIVER, and the right to use, or permit to be used, the *Morse Telegraphic Instruments thereon;* and I hereby covenant and agree with said Speed, his executors, administrators, and assigns, to grant and assign to any company, person, or persons for whom he and they shall build any line, or cause the same to be built, the right to use the Morse Telegraphic instruments thereon, so far as the said right remains in me.

Witness my hand and seal, the day and year first above written. HENRY O'RIELLY. [L. S.]

Witness—DONALD MANN.

AMERICAN TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.
"I'LL PUT A GIRDLE ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPEARE.

VOL. I.—NO. 4. NEW-YORK, JANUARY 31, 1853. DONALD MANN, EDITOR.

NOTICE—DELAY OF ISSUE.

THIS January number of the *Telegraph Magazine* has been delayed in its issue from the 15th to the 31st of the present month, chiefly for the purpose of including in its pages the earliest publication of the Decision of the United States Supreme Court in the great TELEGRAPH CASE—the first ever brought before the U. S. Supreme Court—raised on the appeal of Henry O'Rielly and others *versus* Samuel F. B. Morse and others—a case involving Patent Questions affecting millions of property in other branches of business beside Telegraphing. But, although the arguments were concluded about a month ago, the immense importance of the facts and principles under discussion has not only prevented a decision thus far, but has induced the Court now to announce formally that they will *not* "decide the O'Rielly and Morse Telegraph Case during *this* term, but will consider it during vacation, and decide next term, (session of 1853–4,) without further argument." Meantime, the publication of the arguments on both sides, which are commenced in this number, will be continued till completed in future issues of the *American Telegraph Magazine*. D. M.

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VOL. I.—NO. 4. NEW-YORK, JANUARY 15, 1853. DONALD MANN, EDITOR.

Historical Notices of Electric Telegraphs throughout the World.—No. III.

THE following papers on various interesting matters constitute the Appendix to the affidavit made by Professor Morse in the suit of French and others *versus* Rogers and others, which suit, as before stated, involved the questions between the Morse and Bain Lines between New-York and Washington; questions that have since been settled, so far as the immediate parties are concerned, by a union of the two lines.

PROFESSOR MORSE'S
Account of the Origin and Progress of his Telegraph System.—Concluded.

(*Elementary Principles in Electricity.*)

This is the paper referred to by Professor S. F. B. Morse in his answer to the *fourth interrogatory* on the part of the complainants, as annexed to his deposition, (in the December number of the American Telegraph Magazine,) marked A.

Proposition XXII. Book V.

"If the circuit be interrupted, the fluid will become visible, and when it passes it will leave an impression upon any intermediate body.

"*Exp.* 1.—Let the fluid pass through a chain, or through any metallic bodies placed at a small distance from each other, the fluid in a dark room will be visible between the links of the chain, or between the metallic bodies.

"2.—If the circuit be interrupted by several folds of paper, a perforation will be made through it, and each of the leaves will be protruded by the stroke from the middle towards the outside leaves.

"3.—Let a card be placed under wires which form the circuit, when the circuit is interrupted for the space of an inch, the card will be discolored. If one of the wires be placed under the card and the other above it, the direction of the fluid may be seen.

"4.—Spirits of wine or gunpowder, being made part of the circuit, may be fired.

"5.—Inflammable air may be fired by an electric gun."

(*Prof. Morse and his fellow-passengers.*)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B 1.

From Prof. Morse's Letter Book.

Copy of letter to Dr. Jackson, Capt. William W. Pell, J. Francis Fisher, Esq., Hon. Wm. C. Rives, C. C. Palmer, Esq., the captain of the Sully, and my fellow-passengers.

NEW-YORK CITY UNIVERSITY, Aug. 28, 1837.

DEAR SIR:—You may have seen some notice in the papers of an Electric Telegraph, of which I am the inventor. There is to be a contest, it seems, for priority of invention of this Electric Telegraph between England, France, Germany, and this country. I claim for myself, and consequently for America, priority over all other countries in the invention of a mode of communicating intelligence by electricity. My object in writing you is to ask whether you remember my conversing on the subject of the Electric Telegraph as my invention, when a fellow-passenger with you on board the ship Sully, Capt. Pell, in the month of October, 1832. If you do, please inform me as soon as possible, and state precisely what you remember concerning it. Your testimony to the fact of my having invented it at the time will be important in establishing the priority of the American invention.

With sincere respect, sir, your obedient servant, S. F. B. MORSE.

To Dr. Jackson's, I added, "My plan of

marking by means of an electro-magnet has proved completely successful."

To Mr. C. C. Palmer, I added, "If those of your family who remember any thing of the matter would testify to the same, it would be doing me an essential service."

To Capt. Pell, I added the question, "Have you ever spoken of my invention to passengers in subsequent passages?"

(Prof. Morse's letter to Dr. C. T. Jackson.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B 2.

New-York, Aug. 28, 1837.

Dr. C. T. Jackson:

Dear Sir:—I regret exceedingly that you were not in town when I was in Boston a few weeks since. I called to have a long talk, and tell you the success of my telegraph. I send you an extract from one of the papers respecting it. I accomplished the marking by means of an electro-magnetic power. Let me hear from you, and tell me where you have been, and what new works you have discovered. I hear of you through the journals of science, and always good accounts.

In great haste, but truly yours, as ever,
Sam'l F. B. Morse.

(Dr. Jackson's Reply to Prof. Morse.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B 3.

"Bangor, September 10, 1837.

"S. F. B. Morse, Esq.:

"Dear Sir:—Mrs. Jackson has forwarded to me your favor of the 28th ultimo, in which you give me some account of the success of our Electric Telegraph. I have seen several notices of it in the newspapers, but observe that my name is not connected with the discovery. I am greatly rejoiced to learn that you have been successful in the trial of its power. This, I felt confident, would be the result, as there are various ways of marking at any distance required. In the application of the Electro-Magnet, I had proposed to mark an actual type, having a packet of 24 wires for conductors to the several magnets, each of which moved a letter pressed with great power. I have several other applications of Electro-Magnetism that I shall soon bring to bear on the useful arts. Nothing but the urgency of my present avocations could have prevented me from making public exhibitions in the lecture-room, of my new applications. I have drawings of several instruments, and hope next winter to make public trials of the experiments, and shall not publish any thing until the work is done and perfected.

"I suppose that the reason why my name was not attached to the invention of the electric telegraph is simply that the editor did not know that the invention was our mutual discovery. It is, I suppose, an accidental inadvertency of the editors; I trust you will take care that the proper share of credit shall be given to me, when you make public all your doings. In the mean time it will give me great pleasure to aid in forwarding this great work as far as my time will allow.

"I should suppose, from what I see in the newspapers, that animal magnetism was going to compete with us in carrying on distant communications.

"Very truly, your friend,
"C. T. Jackson.

"I have not seen, I presume, the notice which you sent me with your letter, but suppose it is the one I have seen copied in the Boston papers. In that the invention is wholly attributed to you."

(Prof. Morse's Rejoinder, giving his statement of the Origin of his Telegraph.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B 4.

New-York City University, Sept. 18, 1837.

To Dr. Charles T. Jackson:

My Dear Sir:—Yours of the 10th instant, from Bangor, I have received, and I lose no time in endeavoring to disabuse your mind of an error into which it has fallen, in regard to the electro-magnetic telegraph. You speak of it as "our electric telegraph," and as a "mutual discovery." I am persuaded that when you shall recall the circumstances as they occurred on board the ship, and shall also be informed of the nature of the invention of which I claim to be the sole and original inventor, you will no longer be surprised that your name was not connected with mine in the late announcement of the invention.

I have a distinct recollection of the manner, the place and the moment when the thought of making an electric wire the means of communicating intelligence first came into my mind and was uttered.

It was at the table, in the cabin, just after we had completed the usual repast at mid-day. You were on one side of the table and I upon the other. We were conversing on the recent scientific discoveries in electro-magnetism, and the experiments of Ampère with the electro-magnet. You were describing the length of wire in the coil of a magnet, and the question was asked by one of the passengers, if the electricity was not retarded by the length of wire. You replied, No; that electricity passed instantaneously over any known length of wire; and you then alluded, in proof, to the experiment by Dr. Franklin, who had made many miles in circuit, near London,* to ascertain the velocity of electricity, but could observe no difference of time between the touch at one extremity and the spark at the other. I then remarked, This being so, if the presence of electricity can be made visible in any desired part of the circuit, I see no reason why intelligence might not be transmitted instantaneously by electricity. You gave your assent that it was possible.

The conversation was not diverted, by this remark of mine, from the details of the experiments you were describing, which was the obtaining of a spark from the magnet, nor was this thought of the telegraph again mentioned; until I introduced the subject the next day. While your own mind was, during the voyage, more occupied with other branches of science—of geology and anatomy—the thought which I had conceived took firm possession of my mind, and, as you well know, occupied the wakeful hours of the night; for I used to report occasionally to you, and to several of the other passengers, my progress, and to ask you questions in regard to the best mode of ascertaining the presence of electricity.

I had devised a system of signs, and constructed a species of type which I drew out in my sketch-book, by which to regulate the passage of electricity; but I had not settled the best mode of causing the electricity to mark. Several methods suggested themselves to me, such as causing a puncture to be made in a paper by the passage of a spark between two disconnected parts, &c., which I soon discarded as impracticable.

I asked you if there was not some mode of decomposition which could be turned to account. You suggested the following experiment, which we agreed should be tried together, if we could meet for that purpose. It was this: to decompose, by the electricity, Glauber salts, upon the paper which was first to be colored with turmeric. This, to me, seemed so simple and easy a mode, that I fell in with the idea, and we agreed to try this experiment as soon as possible after our landing.

In my occasional visits to Boston, since my return from Europe, I have always endeavored to see you, and never saw you, as you well know, without introducing the subject of the telegraph, and expressing a wish that the experiment we had talked of might be tried. You were always otherwise busily and necessarily engaged, and the experiment was never tried.

I really do not see the ground of your claim to be a mutual discoverer, even if we had tried the experiment proposed and it had been successful. This fact would not have constituted you a mutual discoverer, but it might have made you a partner in a certain sense in the invention.

The *discovery* is the original suggestion of *conveying intelligence by electricity.* The *invention* is devising the *mode of conveying it.* The discovery, so far as we alone are concerned, belongs to me, and it must of necessity belong exclusively to one; and if, by an experiment which we proposed to try together, we had mutually fixed upon a successful mode of conveying intelligence, then might we with some propriety be termed mutual or joint inventors. But as we have neither tried any experiment together, nor has the one proposed to be tried by you been adopted by me, I cannot see how we can be called mutual inventors.

You are not aware, perhaps, that the mode I have carried into effect, after many and various experiments with the assistance of my colleague, Professor Gale, was never mentioned, either by you or to you. The plan of marking by my peculiar type, and the use which I make of the electro-magnet, was entirely original with me; all the machinery has been elaborated without a hint from you of any kind, in the remotest degree. I am the sole inventor; indeed, had you been aware of these facts, I am sure you would not have preferred a claim to be a co-inventor in an instrument wholly mine.

You say, "I trust that you will take care that the proper share of credit shall be given me when you make public your doings." This I have always done, and with pleasure I have always given you credit for great genius and acquirements, and have always said, in giving any account of my telegraph, that it was on board the ship during a scientific conversation with you that I first conceived the thought of an electric telegraph. Is there really any more you will claim, or that I could in truth or justice give? I have acknowledgments of similar kinds to make to Professor Silliman and Professor Gale, to the former of whom I am under the same obligations, in kind and degree, as to yourself, and to the latter I am most of all indebted for substantial and effective aid in many of my experiments. If any one has a claim to be a mutual inventor on the score of aid by hints, it is Professor Gale, but he prefers no claim of the kind.

I certainly have no cause of complaint because you were never at leisure when I was in Boston, to try the experiment which we agreed together to try; but you will see in a moment that I should have just reason to complain, if after repeated disappointments in this respect, and after having availed myself of a different method, and one entirely my own, to carry into effect my original invention, you should prefer a claim to partnership in it, because we had once conferred together on an experiment never tried.

---

* **Note.—This should have been Philadelphia, not London, as was erroneously written in the original.**

But I need not reason with you, my dear sir; I am sure it is only necessary to present you this statement of the facts in the case, to induce you at once to perceive the injustice you would do me by persisting to prefer any claim to a partnership in my invention. My object in writing you the last time, was not only to inform you of my success, which I thought would be gratifying to you as a friend, and the means I employed in effecting my object; but I was in hopes of your testimony to the fact that I invented it and elaborated it on the voyage from France, in 1832. I desired this testimony that I might successfully claim for our country the priority of invention which is its due; and I cannot but yet hope that you will furnish me with this evidence, to put side by side with that of the other passengers of the Sully, who have furnished me with full testimony to that effect. Let me know your intention, for your letter has embarrassed me much, and I will trust to your honor and sense of justice to relieve me from suspense with as little delay as possible.

Believe me, dear sir, as ever, truly your friend and servant, SAM'L F. B. MORSE.

(Dr. Jackson's Replication, stating his views of the origin of the invention.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B 5.

BOSTON, Nov. 7, 1837.

SAM'L. F. B. MORSE:

MY DEAR SIR:—On my return from the forests of Maine, last Friday, I found your letter of 18th September last, which contains a claim to the electro-magnetic telegraph, as your own exclusive invention. This claim of yours is to me a matter of surprise and regret, for I have always entertained the highest opinion of your honor and fairness, and should be very sorry to have any reason to change my opinion of your character. It becomes me, however, to claim and to sustain that portion of the honor of the discovery and invention which is my due, and I cannot think that you would wilfully endeavor to deprive me of any thing that properly belongs to me, but that you have led yourself into the erroneous belief that you had a right to more than I think you can justly claim in this invention. This I suppose may have arisen from your having thought of and talked so much on this subject. I trust to your candor and sense of justice to make suitable amends; and, if I am not mistaken in your character, you will certainly do so when you have taken a retrospective glance again to the history of the invention.

It seems, by your request that I should certify as to the time of the discovery and invention, that you have in your mind the instrument contrived on board the Sully, during our passage in company, on your return voyage from France, in October, 1832. But you subsequently insinuate that there is another and wholly different instrument in contemplation now, which you pretend that I know nothing about.

This is a strange inconsistency, which I cannot reconcile. I will, however, confine my remarks to the invention made on board the Sully. You say that "you have a distinct recollection of the manner, time, and place, and the moment when the thought of making an electric wire the means of communicating intelligence first came into your mind and was uttered."

If you have this vivid recollection, you cannot refuse your assent to the following remarks, for I remember too, and am happily endowed with a strong and retentive memory as to the facts. In the first place, you will acknowledge that you were, at that time, wholly unacquainted with the history and management of electricity and electro-magnetism, while I was perfectly familiar with the subject, it having been one of my favorite studies from boyhood to that time, and I had enjoyed every possible advantage in acquiring a full knowledge of the subject during my studies in the scientific schools of Paris and elsewhere.

Now, in what manner did the discovery and invention arise, and to whom are the suggestions due? I was enthusiastically describing the curious and wonderful properties of electricity and electro-magnetism before yourself, Mr. Rives, Mr. Fisher, and others, at table, after dinner, while the company were all listeners, and, as appeared to me, were somewhat incredulous, they knowing little or nothing of the subject. I mentioned, among many other things, that I had seen the electric spark pass instantly, without any appreciable loss of time, four hundred times round the great lecture-room of the Sorbonne. This evidently surprised the company, and I then asked if they had not read of Dr. Franklin's experiment, in which he caused electricity to go a journey of twenty miles by means of a wire stretched up the Thames, the water being made a portion of the circuit? The answer was from yourself, that you had not read it.

After a short discussion as to the instantaneous nature of the passage, one of the party, either Mr. Rives or Mr. Fisher, said it would be well if we could send news in the same rapid manner. To which you replied, "Why can't we?" I then proceeded to inform you, in answer to your question, how it might be done:

1st. I observed that electricity might be made visible in any part of the circuit by dividing the wire, when a spark would be seen at the intersection.

2d. That it could be made to perforate paper if interposed between the disconnected wire.

3d. Saline compounds might be decomposed so as to produce colors on paper.

The 2d and 3d projects were finally adopted for a future trial, since they could be made to furnish permanent records. The saline substances mentioned were certain salts of lead, such as the acetate and carbonate, which an interrupted electro-galvanic current would decompose, and leave a black mark on the prepared paper.

Next, turmeric paper was to be dipped in a neutral salt, say sulphate of soda, and then acted upon by a galvanic current. This would produce brown marks, from the presence of free disengaged alkali. Platina points were proposed to effect the changes of color. I then observed, that it would be easy to devise a method of reading the markings.

Here the conversation changed for a while, and was resumed the next day, after breakfast. You then questioned me again on every point of the conversation, and said that you had been thinking much about it; and, pencil in hand, proposed a method of deciphering the marking, the dots or marks being made regularly. This was a subject of discussion, and we both took part in it, but I acknowledge that you did most in planning the numeration of the marks. You at first proposed 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, and subsequently reduced the numbers to five figures and a 0.

Now, as to the invention, I beg leave to remark, that I knew every experiment mentioned, from my own frequent practice in making them. It was to me no unwrought problem, but a matter of absolute certainty. I was not making conjectures, but reporting facts of chemical and physical science. Hence, since I had performed all the experiments in detail, and had here brought them together for a specific purpose, I was, so far as they are concerned, the true inventor, and I do claim to be the principal in the whole invention made on board the Sully. It arose wholly from my materials, and was put together at your request, by me. This you certainly will not pretend to dispute.

I give you full credit for your ingenious suggestions as to the divisions in the markings, which you certainly did propose. You will not, I presume, venture to maintain that you at that time knew any thing about electro-magnetism, more than what you learned from me. If I wanted any other proof, beyond your own confession, I should only have to recall to mind your futile attempt (after your arrival in New-York) at making a galvanic battery, and the plan of types, levers, &c., which were wholly impracticable, and demonstrated to me that you did not understand the subject. I pointed out to you your errors, and promised, as soon as I should have time, to take up the subject with you, and perform this part of the invention.

I have ever, when I met you, been free in my communications, and only wanted leisure to devote a few weeks to our invention. You know why I have not been able to have any spare time. The trouble brought on me by an unfaithful agent while I was absent from home plunged me in pecuniary difficulties at my outset in practice, and kept me for a year or more embroiled in lawsuits occasioned by his frauds. Then the struggle in the outset in medical practice; since then, the charge of a high and responsible duty to the governments of two States as their geological surveyor. These are sufficient reasons.

I never lost sight of the Telegraph, and have done more towards it than you are perhaps aware. I do not know how or when you used the electro-magnet for marking, but I have proof enough to show that I had produced a lever-beam motion with mine for that purpose as long ago as the spring of 1834, and, as I wrote in my last letter, I could mark in real type.

I am certainly desirous of doing you justice to the fullest extent, and have always spoken of your merits, as I hope I shall always have occasion to do. I am also anxious that our country shall bear a due proportion of honor in every useful invention, when she deserves the credit by the labor of her men of genius. But I will not do wrong to any one, either for man, friends, country, or myself. Honor to whom honor is due, shall be my motto, and I must, I believe, fail in this duty, if I should say that the first idea of an Electro-Magnetic Telegraph was conceived by an American citizen. I have searched the archives of science, and find that the first idea of such an instrument was conceived by Soemering, who proposed an Electro-Magnetic Telegraph. Oersted, of Copenhagen, also invented one. Ampère says it is easy to construct an Electro-Magnetic Telegraph. (See Ampère, Exposé des Nouvelles Découvertés sur l'Electro-

Magnetism. Paris, 1822. Page 71.) The discovery* is not, then, to be claimed by us. I have invented a new instrument: so perhaps have you, for I do not yet know what your new one is, since you say I have not seen it, nor heard about it beyond your announcement. If yours is new, I congratulate you upon the invention, but I can give no certificates beyond what you will find in this letter.

Most respectfully, your friend,
C. T. Jackson.

P. S. I did not read this in Ampère until about three years since, although I have owned the book since 1832; and when I saw you last I forgot to mention to you that he had conceived the idea of such a telegraph. I had read portions of the book before, but not that section.

(Postmarked November 8; directed, "Prof. Sam'l F. B. Morse, New-York city.")

(Prof. Morse's Second Rejoinder rebutting the allegations of Dr. Jackson.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *twelfth interrogatory* on the part of the complainants, marked B. 6.

New-York City University, Dec 7, 1837,

To Dr. Charles T. Jackson:

Dear Sir:—When yours of the 7th November arrived in New-York, I was absent in New-Jersey, and confined by severe illness to my bed for several days. I take the earliest opportunity to reply to it.

It is with the deepest regret, after the attempt I made in my last to disabuse your mind of its error on the subject of the telegraph, that I perceive the danger of a collision with you to be more imminent than at first. Unless I can succeed in convincing you how entirely without foundation is the claim to be a "mutual inventor," which in your first letter you set up; and still more, unless you retreat from your recent further encroachment, in claiming to be "principal in the invention" on board the Sully, collision is inevitable, and it will then be impossible, in the present state of my invention, to settle the matter without such an appeal to the laws as must be made public, and which, in whatever way decided, will be attended with consequences of a very unpleasant character to both of us. These results I would avoid if possible; and in hope of adjusting matters privately and amicably, I venture once more to argue the case with you, and will endeavor to convince you that you are under a most serious delusion on this subject; the origin of which delusion I think I can show you.

Your memory and mine are at variance in regard to the first suggestion of conveying intelligence by electricity. I claim to be the one who made it, and in the way in which I stated it in my letter to you. You acknowledge that the suggestion was made by one of the company and not by yourself, and so doubtful are you by whom it was made, that, although your memory serves you up to the point of giving it to one of two others, rather than to me, yet your memory there fails, and you do dot know which of the two it was.

Now, sir, it was neither Mr. Fisher nor Mr. Rives who suggested that thought. I suggested it, and in consequence proceeded to found upon it my whole invention. Had not the thought been original with me, I could not have dwelt upon it with any satisfaction. The idea that I had made a brilliant discovery, that it was original in my mind, was the exciting cause, and the perpetual stimulus to urge me forward in maturing it to a result. Had I supposed at that time that the thought had ever occurred to any other person, I could never have pursued it; and it was not till I had completed my present invention, that I was aware that the thought of conveying intelligence by electricity had occurred to scientific men some years before. This thought was suggested to my mind by a well-known fact, recalled to my memory in your account of a magnetic experiment, a fact of which you say I confessed ignorance, to wit: The experiment of Franklin on the velocity of electricity. If, indeed, you asked the company if they had not read of Franklin's experiment with twenty miles of wire, &c., and that the reply was from myself, that I had not read it, your memory is doubtless correct; for I had not read it, and have not read it, nor can I find, after much inquiry, any one except yourself who has ever heard of it; but if you alluded, as I think you did, to Franklin's experiment of about four miles, at Shooter's Hill, this fact was familiar to me, probably before your birth.

After having given my suggestion to another, you make me answer it by asking you, "Why can't we?" and to this question you represent yourself as having immediately given a methodical answer, which implies that the whole idea of an Electric Telegraph was then not only perfectly familiar with you, but that the modes of carrying it into execution were also as familiar as any common chemical experiment. Now, if your memory is good, you must be conscious that this is altogether incorrect; that it is impossible that it should be correct, since the very thought was new to all, and required at least a little time to devise modes for carrying it into effect. You must be sensible that my suggestion of the possibility of conveying intelligence by electricity was episodical; it did not change the current of your remarks from electro-magnetism, upon which you were discoursing, nor did you make a remark concerning a telegraph, until I called your attention to it the next day. As the thought was suggested by me, so it dwelt in my mind. I cherished it as an antidote to ennui, maturing my invention principally in the sleepless hours of the night. With this invention I was so absorbed, that I thought of little else, and I was in the habit of reporting progress almost daily to the Captain and to several of the other passengers beside yourself. To you, as a man in whom I thought I could confide, I more especially explained my plan of numbers, intervals, types, &c., and the machinery for using them.

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* In your sense of the word, refer to your letter.

I had already invented these, and was reviewing in my mind the various modes of marking, at least ten days after my first thinking of the subject, when I consulted you to ascertain if there were not some substance easily decomposed by the simple contact of a wire in an electric state. It was then, and not till then, that you suggested turmeric paper dipped in a solution of sulphate of soda. It was then, and not till then, that you took any interest in the invention. I proposed to you to try this experiment with me when we should arrive at home; and here, sir, is the origin of your error, in thinking yourself entitled on this account to be a co-inventor. This experiment we were to try together, and if you had tried it, and had otherwise aided me in the invention, I should have been willing to share both honors and profits with you. But you very well know you never tried this nor any other experiment in relation to the telegraph, which you ever reported to me. You very well know that you never entertained, until lately, since my invention has been publicly announced, and since the subject of telegraphs has excited the attention of foreign nations, any interest in it, while I always pressed the subject of the experiment to be tried whenever I met you in Boston. You were full of other engagements, and by your manner of always dismissing it as soon as you could, whenever I introduced it, you showed to me that you esteemed the matter as of little importance.

Thus it has been for nearly five years. You must be aware, too, that while you considered my invention as impracticable, you did not suggest a single hint of any other mode of applying it. You spoke of my invention of numerals, intervals, levers, type, &c., which I had drawn out in my sketch book, as ingenious, but impracticable; indeed, in your last letter you assert that my mode of permanently recording is impracticable, and that you corrected my errors. How you corrected my errors you don't say, nor what mode you proposed as a substitute. If you did propose any, you can doubtless say what it is.

In the letter which I first wrote to you, informing you of the public announcement of my telegraph, and requesting the favor of your certificate that I invented it on board the Sully, in 1832, that I might be prepared against any foreign claimants—a favor which I expected would have been granted—I told you as a friend, that I had invented a mode of marking by means of an electro-magnet. You would have me to understand by your answer that for some three years past you had secretly devised the same plan. I allude to this fact to show you that you did not then conceive yourself to be a mutual inventor, otherwise you would not have allowed three years to elapse without disclosing so important a discovery to your partner in the invention. This is a point that needs explanation: if you considered me a partner in the invention, you were bound, in honor at least, to inform me of it. But if you were contriving secretly to supplant mine, your course is consistent. I shall be loth to adopt the latter supposition; but if I refuse to adopt it, I cannot think you believed yourself to be a mutual inventor.

Another cause of your delusion in this matter, is your entire misconception of the nature of the invention on board the Sully. You seem not to have asked yourself whether any or how much knowledge of chemical science was requisite to an Electric Telegraph. You describe a variety of experiments in chemical decomposition, and claiming to be perfectly familiar yourself with chemical analysis, and charging me, not very courteously, with being entirely ignorant, you have persuaded yourself that the argument is irrefutable in favor of your being the principal inventor. You say that you had collected the materials for that purpose, I being wholly ignorant, except as you enlightened me. The invention, you affirm, arose wholly from your materials, and this I would not pretend to dispute.

Now, sir, I not only deny that all the materials were furnished by you, but I deny that I am indebted to you for a single hint of any kind whatever which I have used in my invention. I go further, sir; I assert that all the consultation I have hitherto had with you on the subject, has had only the effect to retard my invention, by holding out expectations that you would try an experiment which you never tried, but which was necessary to be determined one way or the other, before I could advance a single step. I do not charge you with intentional neglect. I readily allow your excuses for not trying the experiments, but these excuses do not alter the fact that your neglect retarded my invention, and compelled me, after five years' delay, to consider the result of that experiment as a failure, and consequently to devise another mode of applying my apparatus, a mode entirely original with me. This I have done, and now you lay your claim to be a partner in the invention. The only service which could have given you any claim to a share in the invention you neglect to perform, and then you make your demands as if you had performed it, and performed it successfully.

My invention on board the Sully is mechanical and mathematical; it had no more to do with chemical science than with geology or anatomy. The single scientific fact ascertained by Franklin, that electricity can be made to travel on a conductor any distance, instantaneously, is all that I needed to know, aside from mathematics and mechanical science, in order to plan all I invented on board the ship, as any one will be able to see from a moment's inspection of my machinery, as then planned. This machinery consisted chiefly, as you well know, of a system of signs which were numerals, to be read by intervals; types, and apparatus to arrange the numbers for transmission; a lever to mark on the register by closing and breaking the circuit, and a register moving by clock machinery to receive the marks at the proper times. So much for the invention at least you very properly concede to me; you allow explicitly in your letter that I invented these, and now what has chemistry or electro-magnetism to do with any of them? But these, you say, were "wholly impracticable;" and, as you "pointed out my errors," you brought your superior knowledge of chemistry and electro-magnetism into the new mode which you suggested, and which was practicable of course; you can point out then, doubtless, this practicable improvement, or rather substitute for mine.

The apparatus which I invented on board the Sully was gradually matured, and was constructed for and adapted to the use of one wire, or a single circuit. Now, this you have often asserted to me to be impracticable; and although you never devised, to my knowledge, any other method, until I informed you of mine with an electro-magnet, you now talk in your letters of using twenty-four wires and twenty-four magnets, and of marking in real type. Now, what have these to do with my invention on board the Sully? The use of twenty-four wires was probably adopted by you from a hint of mine in the very outset, for it was my first and most natural thought; but, having devised what I considered a much more simple and less expensive mode—to wit, using one wire—I almost immediately relinquished the first for my new mode. Whether you derived the hint or not from me is to me of little consequence; for, provided you use nothing that was invented by me upon the "packet of twenty-four wires," you are at liberty to use them as you please. If you have invented a telegraph of twenty-four wires, and a "mode of marking in real type," why do you claim to be a mutual inventor of mine, which is adapted to one wire or a single circuit, and which you, at the same time, pronounce "impracticable"? Your claim to any share in my impracticable mode is, to say the least, very singular. Unfortunately, sir, for the sustainment of your claim, the plan which I devised on board the ship—the plan of numerals, type, levers, &c., which you pronounce impracticable, and the use of one wire or a single circuit, which you pronounce impracticable—is the very plan I have now in successful operation. This assertion you will, perhaps, again say is inconsistent with what I have said in a former letter, for you charge me with a strange inconsistency which you cannot reconcile, "because I stated that, in consequence of your not testing by experiment a mode of marking which we had devised together, I had carried into effect another mode entirely original with me." The only inconsistency is in your own misapprehension of my letter. You apply my remark, without any warrant, to the whole invention, whereas my letter limits it expressly to a small part—to that part only which relates to the chemical experiment we proposed to try together, to a mode of marking.

From a review of the whole matter, it is very evident to me that you have been led to project, since your arrival home, a telegraph of your own, founded on the intercourse with me on board the ship, and the free imparting of my invention at that time to you. I will not complain, although, under all the circumstances, I might complain, of your intrusion upon my ground. But you will have to use great circumspection. By this intrusion you have produced a most delicate position of matters; for, by persisting in your unfounded claim, you will not only deprive me of my rights, but you necessarily imply a charge against me of depriving you of your right. On this point, sir, you must perceive the necessity of treading very cautiously. You will, I hope, publish nothing which shall implicate me in the slightest degree. A public vindication I should wish to avoid, not less on your account and the general account of science than my own, and I shall avoid it, unless you compel me to it by the course you adopt in announcing your own invention. My invention—the invention on board the Sully—has for some time been entered at the Patent Office. I have made contracts and formed partnerships in virtue of the rights secured to me; any infringements of those rights will oblige me to take a course which, were I unconnected with others, I might not pursue. For, such is my aversion to a difference with any man, especially a man of science like yourself, that I would, personally, rather suffer the wrong than, by vindicating my rights, give any occasion for reflection upon the character or disposition of those whose time and talents ought to be employed in enlarging the bounds of science, and not in settling the merits of mere personal claims.

Whatever, therefore, I might personally wish, I am so associated with others that justice will demand a prompt vindication of my own rights, if they are attacked. I have chosen to ascribe your motives, in asserting so unfounded a claim to my labors, to honest forgetfulness of the circumstances as they occurred on board the Sully, and to a misconception of the nature of my invention; and I trust that no measures on your part will compel me to adopt any other less favorable explanation of your conduct. I therefore yet hope that this matter can be settled in private, (I have written plainly for this very end;) and I also hope, if you are determined to present another electro-magnetic telegraph to the world, you will do it without clashing with my prior claim. Hoping to have such an answer as shall clear up rather than increase difficulties,

I am, as ever, in respect for your genius and requirements, your most obedient servant,

SAMUEL F. B. MORSE.

(Circular of Prof. Morse to his fellow-passengers.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to the *thirteenth interrogatory* on the part of the complainants, marked C 1.

Copy of a letter to Captain William W. Pell, of the ship Sully, Hon. William C. Rives, J. Francis Fisher, Esq., Dr. Charles T. Jackson, and Charles C. Palmer, Esq., passengers on board said ship, on her voyage from Havre to New-York, in October, 1832.

NEW-YORK CITY UNIVERSITY, Aug. 28th, 1837.

DEAR SIR:—You may have seen some notice in the papers of an electric telegraph, of which I am the inventor. There is to be a contest, it seems, for priority of invention of this electric telegraph between England, France, Germany, and this country. I claim for myself, and consequently for America, priority over all other countries in the invention of a mode of communicating intelligence by electricity. My object in writing you, is to ask whether you remember my conversing on the subject of the electric telegraph as my invention, when a fellow-passenger with you on board the ship Sully, Capt. Pell, in the month of October, 1832. If you do, please inform me as soon as possible, and state precisely what you remember concerning it. Your testimony to the fact of my having invented it at the time will be important in establishing the priority of the American invention.

With sincere respect, sir, your obedient servant, S. F. B. MORSE.

To the letter to Dr. Jackson was added, "My plan of marking by means of *an electro-magnet* has proved completely successful."

To the letter to C. C. Palmer, Esq., was added, "If those of your family who remember any thing of the matter would testify to the same, it would be doing me an essential service."

To the letter to Captain Pell was added the question, "Have you ever spoken of my invention to passengers in subsequent passages?"

(Reply of Capt. Pell, of the Sully.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C 2.

NEW-YORK, Sept. 27th, 1837.

SAMUEL F. B. MORSE, ESQ.

DEAR SIR:—On my arrival here I received your letter, calling upon my recollection for what was said on the subject of an Electric Telegraph during the passage from Havre, on board of the ship Sully, in October, 1832. I am happy to say I have a distinct remembrance of your suggesting, as a thought newly occurred to you, the possibility of a telegraphic communication being effected by electric wires. As the passage progressed, and your idea developed, it became frequently a subject of conversation. Difficulty after difficulty was suggested as obstacles to its operation, which your ingenuity still labored to remove, until your invention, passing from its first crude state through different grades of perfectionment, was, in seeming, matured to an available instrument, wanting only patronage to perfect it, and call it into reality. And I sincerely trust, that circumstances may not deprive you of the reward due to the invention, which, whatever be its source in Europe, is with you, at least, I am convinced, original.

To your question of my having spoken on subsequent passages to others, of your invention, I might say, you could well anticipate the reply; as you enjoined no secrecy on me, it was natural I should mention a subject so interesting to me, and have a remembrance of so doing in several instances, but to whom I cannot recollect. When you observed to me, a few days before leaving the ship, "Well, Captain, when you hear of the Telegraph, one of these days, as the wonder of the world, remember the discovery was made on board the ship Sully," I then little thought I should ever be called upon to throw into the scale my mite of testimony in support of your claims to priority of invention, for what seemed so startling a novelty.

With my respects and best wishes, I subscribe myself, **William W. Pell.**

Samuel F. B. Morse, Esq.

(Letter of Prof. Morse to Hon. Wm. C. Rives.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 3.

New-York City University, Sept. 14th, 1837.

My Dear Sir:—I addressed a letter a few days since to you, with a request that you would inform me if you remembered my mentioning to you the subject of my Electric Telegraph, while on board the Sully, on our return from Europe in 1832. I distinctly remember often conversing with you on the subject while walking the deck, and answering some objections to the plan which you suggested. I am anxious to know simply whether you remember the fact, as it will be of material importance in the contest for priority of invention between France, England, Germany and this country, to establish my claim, and of consequence the claim of the country, to priority. I am well aware that your time is, at this moment, very much occupied, and it is only the necessity I am under of having this fact settled, to enable me to contend successfully against foreign claimants, that I give you this trouble. I hope, sir, the urgency of the case will be my apology.

With sincere respect and esteem, your most obedient servant, **Samuel F. B. Morse.**

Hon. Wm. C. Rives, Senator, Washington.

(Reply of Senator Rives.)

This is the paper referred to by Prof. Samuel F. B. Morse in his examination as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 4.

Senate Chamber, Sept. 21st, 1837.

My Dear Sir:—I hope you will find in my multiplied and oppressive engagements here, an apology for not having sooner answered your inquiry on the subject of your electro-magnetic telegraph. I retain a distinct recollection of your having explained to me the conception of this ingenious invention, during our voyage from France to the United States, in the autumn of 1832, and that it was, more than once, the subject of conversation between us, in which I suggested difficulties that you met, and solved with great promptitude and confidence. I am much flattered by your kind recollection of my family and myself, and beg leave to assure you that it would give us all great pleasure to renew, in personal intercourse at home, the agreeable souvenirs of our acquaintance and friendly relations abroad.

I remain, with great respect, your most obedient servant, **W. C. Rives.**

Prof. S. F. B. Morse.

(Statement of Prof. Fisher.)

This is the paper referred to by Prof. Samuel F. B. Morse in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 5.

Philadelphia, Sept. 19th. 1837.

My Dear Sir:—I received your letter yesterday, and should have immediately replied, but was prevented by business.

I certainly recollect many conversations on the subject of an electric telegraph, during our voyage from Europe in the Sully, in October, 1832.

I should have some difficulty in recalling, with any precision, the details of your plan of communication, but I think you spoke of a single wire, and letters or signs were to be indicated by a quick succession of strokes or shocks. We also discussed the mode of protecting the conductor, both through land and across rivers; and tubes of different materials were proposed, to secure it against dampness, glass, clay, &c., but doubting its practicability, I, perhaps, paid too little attention to your scheme. Dr. Jackson, our fellow-passenger, no doubt retains in his memory many more particulars. And as the plan was by no means matured in 1832, it is perhaps altogether unnecessary for me to say more than that I am at any time ready to give any certificate, that you proposed, and were occupied about the details of an electric telegraph at the time referred to.

Wishing you all success in this, as in every other occupation, and that the establishment of your fame for this invention may be as extensive as it is deserved,

I remain, with high respect, most faithfully yours, **J. Francis Fisher.**

Samuel F. B. Morse.

(Further Inquiries of Prof. Morse.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 6.

New-York City University, Nov. 14th, 1837.

My Dear Sir:—Let me in the first place thank you for your satisfactory answer to a former letter, requesting your testimony to the fact of my having invented the Electric Telegraph, on board the ship Sully, in 1832. I little thought when I made this request, in order to prepare myself against foreign attack, that I should be under the necessity of again troubling you for evidence to defend myself against an attack at home. But so it is. In my desire to be prepard with testimony similar to that which you and many others of my fellow-passengers so promptly gave me, I wrote a similar request to one of them, not doubting of a like reply, but to my utter surprise, in his reply he preferred a claim to be a mutual inventor. I wrote, remonstrating with him, and making my appeal to his sense of honor and justice, and recalled to his memory the incidents on board ship, and detailed the rise and progress of the invention in my mind. In his answer just received he makes a bolder encroachment, and now claims to be the principal inventor. I had stated to him among other things that, in conversation with a group of passengers, the experiment of Franklin to ascertain the velocity of electricity was mentioned; it was remarked by one of them that the spark passed instantaneously a distance of four miles. I then observed: "If the presence of electricity can be made visible in any desired part of this circuit, I do not see why a system of signs could not be constructed to transmit intelligence instantaneously to any distance." Now, while he does not claim this suggestion for himself, he yet denies it to me, and says, one of the party, either Mr. Rives or Mr. Fisher, said, "It would be well if we could send news in the same rapid manner." I think if you had made the observation attributed to you, you will be likely to recollect it; will you therefore oblige me with an answer to these two questions: First. Do you recollect having made the observation attributed either to you or to Mr. Rives? Second. Have you any impression, from your recollection of what occurred on board the Sully, that any other person than myself was the inventor of the electric telegraph? I beg you to excuse the trouble which I am compelled by circumstances to give you, and to believe that I am, with sincere respect and esteem, your obd't. serv't.,

Samuel F. B. Morse.

To J. Francis Fisher, Esq., Philadelphia.
To the Hon. W. C. Rives, Washington.

(Additional Replies of Prof. Fisher and Senator Rives.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 7.

Philadelphia, November 17th, 1837.

My Dear Sir:—I have just received your letter of November 14th, and am happy, so far as negatives go, to give satisfactory answers to both your queries. To the first: "Do you recollect having made the observation attributed either to you or Mr. Rives?" (viz.: "It would be well if we could send news in the same rapid manner,") I answer, certainly not, and it would have been strange, if not silly, to have done so, since the first mention of an electric or galvanic telegraph by you, implied the possibility.

To the second: "Have you any impression from your recollection of what occurred on board the Sully, that any other person than myself was the inventor of the electric telegraph?" I answer, I had no idea that any of our fellow-passengers could claim the credit of it. I am quite sure I received my first idea of it from you; that you were most interested in it; that you alone seemed disposed to test its practicability after landing. If you received any suggestions from others, as to the system of signs and mode of protecting the wires, you can, I suppose, best recollect. I am not disposed to claim any credit for such hints myself, and trusting to my own memory, should be as little likely to attribute any merit to others of our fellow-passengers. I will of course give my testimony in a more formal way, if necessary; and I remain,

Dear sir, with much respect, truly yours,
J. Francis Fisher.
Samuel F. B. Morse, Esq.

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 8.

Senate Chamber, 1st March, 1838.

My Dear Sir:—I have heretofore had the pleasure of stating to you in writing, my recollection of your suggestion of the practicability of transmitting intelligence by means of electricity, during our voyage from Havre to New-York, in the autumn of 1832. I am utterly surprised to learn that any one should have given me credit for suggesting it. I am perfectly sure that such a conception has never entered my mind, and that it was a complete novelty to me when first presented to my contemplation by your conversation during the progress of our voyage above mentioned.

Wishing you, my dear sir, great success in maturing and carrying into execution an invention which promises to mark a new era in the progress of modern improvements,

I remain, with great respect, your most obedient servant,
(Signed) W. C. Rives.
Samuel F. B. Morse, Esq.

(Further correspondence of Prof. Morse and Capt. Pell.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 9.

NEW-YORK CITY UNIVERSITY, Jan. 29th, 1838.

TO CAPTAIN PELL:

MY DEAR SIR:—You were so kind as to give me, in a former letter, your testimony that I invented the electro-magnetic telegraph on board the Sully, which you commanded in 1832, and in which ship I returned from France.

One of my fellow-passengers, to whom I had written to obtain like testimony, to my great surprise, claims in his reply to be the "principal inventor of the invention on board the Sully." You would much oblige me if you will give me your impressions on the questions—1st. Was there, on board the ship, any other person than myself the inventor of the telegraph? 2d. Did I, or did any other appear to you to be principally or wholly engaged in elaborating it during the voyage? By an early answer, you will oblige

Yours with sincere esteem,
SAMUEL F. B. MORSE.

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 10.

NEW-YORK, Feb. 1st, 1838.

SAMUEL F. B. MORSE:

DEAR SIR:—It is a matter of great astonishment to me, that a fellow-passenger with us in the Sully, from Havre, in October, 1832, should attempt to contend with you the claim of having been the inventor of the electric telegraph, which occupied so much of your attention during the passage, or that there was one on board of her who had any claim even to a participation of its honors.

To your queries on that subject I can only reply in general terms, as I have not a distinct recollection of all the conversations and circumstances bearing upon it which then came to my knowledge. But my impressions rest upon my mind with the freshness and force of conviction, that *you only*, on board of that ship, was the originator of the inventon; that *your mind alone* seemed interested in it with any seriousness of purpose, even after its first suggestion by you, and while it was, in seeming, the daily and favorite object of your study, which was, each day, developing it into a higher perfection. So when, a few days since, I examined your instrument, I recognized in it the principles and mechanical arrangements which, on board, I had heard you so frequently explain through all its developments. With the sincere wish that no hand may be so rash as to persist in the attempt to snatch from you the reward which belongs to you, I subscribe myself, with much esteem,

(Signed) WM. W. PELL.

(Correspondence between Prof. Morse and Frederick T. Palmer.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 11.

PARIS, February 22d, 1839.

MY DEAR SIR:—I regret, on many accounts, that I had not the pleasure of seeing you when you were in Paris. I was so unfortunate as not to find you at your hotel both times that I called on you and Mr. Prime.

I wished to introduce to you the telegraph, at whose birth and infancy, on board the Sully, you were present, in October, 1832. I wished to obtain from you a note certifying that I invented it at that time. I had, also, another more immediate object in asking this note from you, to wit: to call upon your recollection for the incidents of the progress of this invention on board the ship. Please designate whom you believe to be the inventor. Have you any idea that any other person on board that ship could claim to be the inventor, or to be a participator in the electro-magnetic telegraph, as there planned? My object in requesting an answer to this question is to defend myself against a claim just publicly made by one of our fellow-passengers, who, since the announcement of the success of my invention, has boldly attempted to deprive me of the "entire invention."

I know you took quite an interest in the invention at the time, from your scientific cast of mind, and I should therefore feel much obliged to you to state all you may recollect of the subject. I shall leave Paris in a few weeks, and should therefore feel obliged by an early answer. A letter directed to me, to the care of Messrs. H. Edwards & Co., No. 9 Rue Clery, will reach me, even if I shall have left Paris.

I remain, dear sir, with sincere esteem,
Your friend and servant,
SAMUEL F. B. MORSE.

TO FREDERICK T. PALMER, ESQ., care of Rev. Charles Palmer, Rahan, near Edenderry, Ireland.

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *thirteenth interrogatory* on the part of the complainants, marked C. 12.

RAHAN, March 5th, 1839.

SAMUEL F. B. MORSE, ESQ.:

MY DEAR SIR:—Since the receipt of yours of the 22d ultimo, I have been trying to call to mind some of the particulars of the transaction therein referred to. I perfectly recollect your describing to myself and others of our fellow-passengers, on board the Sully, during her homeward passage from Havre to New-York, in October, 1832, an electric telegraph, which you stated you had invented, or which had occurred to you since your being on board.

It was certainly new to me, and to the best of my knowledge and belief, was so also to the rest of our fellow-passengers; for (if my memory does not betray me) no one at that time claimed a priority of invention, in your method of applying the electric fluid to the conveying of despatches.

I certainly did understand at the time, that you intended to perfect this invention, which you considered your own, and to obtain a patent for it. I am sorry that, from the time that has elapsed since this occurred, I am not able to give more minuteness to my evidence, and cannot call to mind the particulars of our conversations on the subject; but I can safely say that, (to the best of my knowledge and belief,) although we might all in turn (as is generally the case on such occasions) have suggested little modifications, yet no one, at that time, put forward any claim, either to priority of invention, or to having any hand in it, neither do I believe that they would have any right to do so. And certainly, as far as my feelings go, I would consider it an injustice, in your being deprived of any benefit resulting from this invention.

I hope these lines will be of use to you, and beg you will not scruple to write to me, if I can be of any further use. And wishing you every success in this business, I remain, my dear sir, very truly yours,

FREDERICK T. PALMER.

(Prof. Torrey's Statement about Dana's Magnet.)

This is the paper referred to by Prof. Samuel F. B. Morse, in his examination, as annexed to his answer to the *fifth cross-interrogatory* on the part of the respondents, marked E.

OBSERVER OFFICE,
Monday Morning, March 8th, 1847.

MY DEAR SIR:—I received your letter on Saturday, and brought down this morning the piece of apparatus which must be the one alluded to in your letter. It is, however, covered with "*black*" instead of "*red sealing wax varnish.*" If it is of any use to you, I beg you will accept of it. I am sure it is the one used by Prof. Dana in his lectures before the New-York Athenæum.

I know Prof. Dana, but cannot tell his whereabouts; if he is in town, some of the mathematicians must know where he can be found. Yours, very cordially,

PROF. MORSE. JOHN TORREY.

(Proposed New Telegraph—1837.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *seventh cross-interrogatory* on the part of the respondents, marked F.

NEWLY INVENTED TELEGRAPH.—We take the following from a Washington letter in the *Baltimore Patriot:*

"Mr. Gonon, and his associate, Mr. Servell, have, after many years' application to the subject, invented an important system of Telegraphs, which casts into the shade every thing of the same kind that has yet been attempted. By their admirable plan, they can communicate every kind of information, word by word, and punctuate the same, without using more signals than words, and with as much rapidity as a person can write or even speak! They have received the most flattering encouragement from those literary and scientific gentlemen to whom they have explained the system; and not a doubt is entertained that it will accomplish the purposes of the inventors, and realize all that has been anticipated from it. Mr. Gonon assures me that he will be able to communicate a despatch of one hundred words, from New-York to New-Orleans, in *half an hour!* and those who are thoroughly acquainted with the system confirm his promises. How elementary does every other system appear in comparison of that which can accomplish such an object. The imagination is overpowered in contemplating the consequences of such an achievement of human ingenuity. Distance is annihilated. Thousands of miles no longer divide us. We know on the instant, as it were, the actions, the wishes, the determinations of our fellow-beings of other States. Fortunate it is that we live in an age for whose intellectual progress nothing is too ripe."

From the New-York Observer, 1837.

We know nothing of the telegraph of Messrs. Gonon and Servell, except what is related in the above paragraph; but we do know that a gentleman of our acquaintance, several years since, suggested that intelligence might be communicated almost instantaneously, hundreds, if not thousands of miles, by means of very fine wires, properly coated to protect them from moisture, and extending between places thus widely separated. It is well known that the electric fluid occupies no perceptible time in passing many miles on a wire; and if it is possible, by connecting one end of the wire with an electrical or galvanic battery, to produce *any sensible effect whatever* at the other, it is obvious that if there are *twenty-four* wires, each representing a letter of the alphabet, they may be connected with the battery successively in any order; and if so conducted in the order of the letters of any word or sentence, that word or sentence could be read or written by a person standing at the other end of the wires. All the letters of a paragraph in a newspaper could thus be touched successively by a man in Philadelphia, and the contents, verbatim et literatim, be conveyed to New-York as fast as a compositor could set up the type! It is not impossible that the time may be near when speeches in Congress, taken down by reporters, and conveyed by these "electric telegraphs" to New-York or New-Orleans, may be in type, printed, circulated, and read, within a few hours after the voice of the speaker has ceased at Washington. The wires necessary for a distance of a hundred miles need not weigh many pounds, and if inclosed in an India rubber tube, and supported on high poles erected along the route at intervals of four or five hundred feet, could be extended through an immense distance at a trifling expense. The feasibility of the project depends entirely upon the practicability of producing any sensible effect at one end of a long wire by connecting the other end with an electrical or galvanic battery.

(Prof. Morse named as the Inventor.)

This is the paper referred to by Prof. S. F. B. Morse, in his examination, as annexed to his answer to the *seventh cross-interrogatory* on the part of the respondents, marked G.

From the Journal of Commerce, April 27, 1837.

The gentleman alluded to by the editor of the New-York Observer, as the inventor of the electric telegraph, is Prof. S. F. B. Morse, President of the National Academy of Design. While on his voyage from Europe, several years since, in company with Dr. Charles Jackson, the distinguished geologist of Boston, they often conversed on scientific subjects on board ship, particularly on the discoveries in galvanism, magnetism and electricity. Mr. Morse then suggested the idea of an electric telegraph, and during the voyage he elaborated the whole machinery, even down to a set of type to be employed in the process, which he had cast on his arrival home, and which we have seen.

(Prof. Morse's Letter asking for Patents, &c.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *eighth cross-interrogatory* on the part of the respondents, marked H. 1.

"New-York, May 2d, 1840.

"Hon. H. L. Ellsworth, Commissioner, &c.:

"My Dear Sir:—I have never received my patent papers from your office. I believe there was something to be done on my part in relation to a drawing for one of the duplicates, which I was prevented from accomplishing by the necessity of preparing suddenly for my visit to Europe, with the telegraph. I have nearly completed an improved apparatus, for which I intend to take out a patent, adding it to my patent already executed, as an improvement. I should long since have visited Washington with my apparatus and asked for some action upon the matter by Congress, but for the low state of financial affairs private and public. So far as the approbation of the scientific and mechanical world goes, I have had the gratification of having had it loudly and substantially expressed, that my telegraph is the best of all that had been examined. But while in England the very complicated and deficient apparatus of Wheatstone is carried into operation by a wealthy company for thirteen miles, and is in further progress; and while the telegraph of Steinheil, at Munich, is adopted, and is carrying into effect by the Bavarian government, I am fettered and prevented from bringing the American Telegraph (the first invented, as dates conclusively show, and the best according to the opinion of the best judges of the case here and in Europe, as I can also show) into operation for want of a little assistance from our government. I was first encouraged to offer my telegraph to the government by letters from the Secretary of the Treasury, drawing my attention to the subject, then by the report of the committees in Congress, to whom the subject was referred, and by the report of a bill for a sum sufficient to test its practicability. I have been hoping that an invention which is to succeed just as surely as steam travelling has succeeded, an invention which is truly an American invention, would be in a sense adopted by the government, and an opportunity given me to bring it forth in full operation, to the honor of the country. I have spent time, strength and money to accomplish this; have been exercised with the alternate hopes and disappointments of an inventor; and unless something is done to help me forward, the more wealthy Englishmen will have it in their power, not merely to deprive me of the profit of my discovery in my own country, as they have already in their own, by a gross act of injustice; but, as in the case of Hadley's quadrant instead of Godfrey's quadrant, the telegraph will be an English, not an American invention.

"I could tell you a long story on this point, but long stories are not for gentlemen in official stations, who have their time often too thoughtlessly consumed by the intrusion of time-killers.

"Please tell me what I am to do in order to have my letters patent for the telegraph, and I will do it.

"Make my best respects to Mrs. Ellsworth

and your family, and believe me, with sincere respect and esteem,

"Your old friend and classmate,

"SAML. F. B. MORSE."

(Proceedings in France respecting Morse's Telegraph.)

This is the paper referred to by Prof. S. F. B. Morse in his examination, as annexed to his answer to the *ninth cross-interrogatory*, on the part of the respondents, marked I 1, I 2, I 3, I 4.

Physique appliquée—télégraphe électro-magnétique de M. Morse, Professeur à l'Université de New-Yorck.

L'instrument a été mis en action sous les yeux de l'Académie. Voici la traduction littérale d'une grande partie de la note que M. Morse a remise aux secrétaires perpetuels :

"M. Morse croit que son instrument est la première *application réalisable* qui ait été faite de l'électricité à la construction d'un télégraphe. Cet instrument fut inventé en Octobre, 1832, pendant que l'auteur se rendait d'Europe en Amérique sur le paquebot le Sully. Le fait est certifié par le capitaine du bâtiment et par plusieurs passagers. Au nombre de ces derniers se trouvait M. Rives, Ministre des Etats-Unis auprès du gouvernement français. M. Rives a écrit à M. Morse, à la date du 21 Septembre, 1837 :

"Je me rappelle parfaitement que vous m'exposâtes l'idée de votre ingenieux instrument pendant le voyage que nous fimes ensemble dans l'automne de 1832. Je me rappelle aussi que durant nos nombreuses conversations sur ce sujet, je vous fis diverses difficultés, et que vous les levâtes avec promptitude et confiance . . . . . etc., etc.

"W. C. RIVES."

Dans la lettre du capitaine du paquebot, M. W. Pell, en date du 27 Septembre, 1837, nous remarquons particulièrement ce passage :

"Lorsque j'examinai votre instrument, il y a peu de jours j'y reconnus les principes et les arrangements mécaniques que je vous avais entendu développer à mon bord, en Octobre, 1832.

"L'idée d'appliquer le galvanisme à la construction de télégraphes n'est pas nouvelle. Le docteur *Coxe*, citoyen distingué de *Philadelphie*, en fit mention, en Fevrier, 1816, dans un note insérée aux Annales du docteur Thompson, Vol. VII., p. 162, 1re série ; mais il n'y avait encore là aucun moyen de la mettre en pratique.

"Depuis l'époque à laquelle remonte l'invention du télégraphe de M. *Morse*, d'autres appareils, fondés sur les mêmes principes, ont été annoncés, parmi lesquels les plus célèbres sont ceux de M. *Steinheil* de *Munich*, et de M. *Wheatstone* de *Londres ;* les méchanismes diffèrent beaucoup.

"Le Télégraphe Américain n'emploie qu'un seul circuit ;* en voici une description abrégée.

"A l'extrémité du circuit où les nouvelles doivent être reçues, est un appareil nommé le *Register* (*ou Rapporteur*). Il consiste en un *électro-aimant* dont le fil enveloppe forme le prolongement du fil du circuit.

"L'armature de cet aimant est attachée au bout d'un petit levier qui, par l'extrémité opposée, porte une plume ; sous cette plume est un ruban de papier qui marche à volonté à l'aide d'un certain nombre de rouages. A l'autre extrémité du circuit, c'est-à-dire à la station d'où les nouvelles doivent partir, existe un appareil nommé *Portrule* (ou Port Composteur). Il consiste en une batterie (ou générateur de galvanisme), aux deux pôles de laquelle finit le circuit. Près de la batterie une portion de ce circuit est brisée ; les deux extrémités disjointes sont introduites dans deux coupes de mercure contigues.

"A l'aide d'un fil en fourche attaché à l'extrémité d'un petit levier, les deux coupes peuvent être à volonté mises en connexion entre elles ou laissées isolées. Ainsi le circuit est fermé ou rompu quand on le veut. Le jeu du méchanisme est le suivant.

"Quand le circuit est fermé, l'aimant est chargé, il attire l'armature et le mouvement de celle-ci fait que la plume touche le papier. Quand le circuit est interrompu, le magnétisme du fer à cheval cesse, l'armature revient à sa premiere position, et la plume s'éloigne du papier. Lorsque le circuit est fermé et ouvert rapidement, il se produit sur le papier mobile de simples points ; si au contraire il reste fermé pendant un certain temps, la plume marque une ligne d'autant plus longue que la fermeture est plus longue elle-même. Ce papier offre un large intervalle de blanc si le circuit reste ouvert un temps un peu considérable. Ces points, ces lignes et les espaces blanc conduisent à une grande variété de combinaisons. A l'aide de ces éléments, M. le professeur Morse a construit un alphabet et les signes des chiffres. Les lettres peuvent être écrites avec une grande rapidité au moyen de certains types que la machine fait mouvoir avec exactitude, et qui impriment au levier portant la plume des mouvements convenables. On trace quarante à quarante-cinq de ces caractères en une minute.

"Le *Register* ou *Rapporteur* est sous le contrôle de la personne qui envoie une nouvelle. En effet, depuis l'extrémité nommé *Port composteur*, le méchanisme du rapporteur peut être mis en mouvement à volonté et arrêté de même. La présence d'une per-

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* Supposons que les lieux qui doivent être mis en relation, occupent les trois angles d'un triangle, les quatre angles d'un quadrilatère, ou certaines points d'une courbe fermée, il suffira (théoriquement du moins) d'un simple fil passant par tous ces points.

sonne pour recevoir la nouvelle n'est donc pas nécessaire, quoique cependant le son d'une cloche mise en tintement par le méchanisme, annonce que l'on va commencer à écrire."

La distance à laquelle le télégraphe Américain a été essayé est de *dix milles* anglais, ou de *quatre lieues* de poste de France. Les expériences ont eu pour témoin une Commission de l'Institut de Franklin de Philadelphie et un Comité nommé par le Congrès des Etats Unis.

Les rapports des deux Commissions (nous ne les transcrirons pas) sont extrêmement favorables.

Le Comité du Congrès a proposé de consacrer trente mille dollars (150 mille francs) à une expérience en grand de ce mode de communication. La dépense de construction du nouveau systeme télégraphique serait, suivant M. *Morse*, de 3500 francs par mille anglais, ce qui revient à 14,000 francs par lieue de poste de France. La machine qu'il faudrait établir à chaque extrémité ne coûterait pas plus de 1500 francs. M. Morse pense que ces fils une fois placés dureraient un demi siècle, à moins que la malveillance ne les brisât. On doit remarquer que si le réseau était complet, les nouvelles pourraient aller d'une ville à une autre par plusieurs directions et sans perte de temps appréciable. Il est inutile de dire que ce mode de communication a sur les télégraphes ordinaires l'avantage de pouvoir servir de nuit comme de jour, par le pluie et par le brouillard comme par un temps serein.

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National Telegraph Convention at Washington, in March.

THE projected National Telegraph Convention, to be held at Washington on the fifth of March, excites general approbation. Its deliberations can hardly fail to be essentially beneficial to the public, as well as to the Telegraph Companies; and whatever benefits these, should and will improve the condition of the telegraphers generally, on whose labors and integrity the character and profits of the enterprise essentially depend.

Never was an improved organization more strongly required in any branch of business; for never was an enterprise of equal extent conducted in a looser manner. It is true, that some companies are conducted in a manner that should reflect credit on their officers; but many, too many, others, are managed, or mismanaged, in ways that would hardly be credited by persons who are not thoroughly familiar with the present workings of the telegraphic system throughout the United States.

The Call for the proposed Convention, which we have already inserted in the *Telegraph Magazine*, sets forth several important points wherein *improvement* is indispensably necessary. Would that we could believe these are *all* the *important* reforms that are required!

Companies that have not already appointed delegates, should not delay in securing the services of representatives who will surely attend. Let there be a full meeting; and let the Convention show, by the acts of all its members, that no narrowness or prejudice shall govern its action in matters so essential to the welfare of all concerned—including not merely the interests of companies or stockholders, but also of the faithful telegraphers and the friendly public.

The collected intelligence and experience of the gentlemen whose names are attached to the Call of this Convention, will, we confidently predict, insure the adoption of General Rules which will leave a lasting impress on the character of the vast enterprise in which they have been so long and deeply engaged.

National Telegraph Convention.

NOTICE.

MORSE'S AMERICAN TELEGRAPH.—TO ALL LINES IN AMERICA.—For the purpose of consummating a unity of action in such affairs of the Telegraph System as may be deemed material to the common interest, the undersigned propose a meeting of the representatives of all the Telegraph Lines in America working the Morse System of Telegraph, at WASHINGTON CITY, March 5th, 1853.

It is useless to enlarge upon the necessities requiring a general meeting of the kind designated above, and unnecessary to add what can or would be submitted for consideration in the premises, except that we have in view a joint action through this Convention on such matters as may be of interest to the lines in common, without regard to the special interest of any given line or connection.

The signals and abbreviations of lines differ; the counting of words frequently disagree; the style and manner of operating and doing business generally are as diversified as there are powers to create; and there are doubtless many points that can be acted upon by a Convention, which would redound to the weal of all lines, without any disturbance of their pecuniary affiliation or respective interests.

The undersigned are the representatives of but a portion of the lines in America, and it is desirable to have a representation from as many of the lines as possible. Such as desire to unite in the Convention aforesaid are requested by their Presidents or Superintendents to notify either of the undersigned, by letter, of their willingness to coöperate in the same.

AMOS KENDALL,
Pres't. Western Telegraph Company.
WM. M SWAIN,
Pres't. The Magnetic Telegraph Co.
F. O. J. SMITH,
Pres't. Boston and Portland Tel. Co.
T. S. FAXTON,
Pres't. N. Y., A. and Buffalo Tel. Co
ELAM ALEXANDER,
Pres't. W. and N. O. Tel. Co.
H. M. SCHIEFFELEN,
Pres't. N. Y. & N. E. U. Telegraph Co.
HENRY O'RIELLY.
Of Atlantic, Lake and Mississippi Lines
WILLIAM TANNER,
Pres't. N. O. and Ohio Telegraph Co.
TAL. P. SHAFFNER,
Pres't. St. Louis and N. O. Tel. Co.
ISAAC M. VEITCH,
Pres't. St. Louis and Mo. R. Tel. Co.
J. H. WADE,
Pres't. Cleve., Cin. and St. L. Tel. Co.
A. C. GOELL,
President of the Philadelphia and Wilkesbarre Telegraph Company, and also the Susquehana River and N. and W. Branch Telegraph Company.
JOHN J. SPEED, Jr.,
Of Erie and Michigan Tel. Co.
Philadelphia, September, 1852. Nov.—tf.

Convention of Superintendents of the House Telegraph Lines.

We are glad to find that the spirit which influenced the call of a National Convention of persons connected with "all the Morse Lines in America," has already had a similar effect on the House Telegraph Lines.

A meeting of delegates from the several House Lines was held in this city during the last month, for the purpose of agreeing on uniform regulations for the better management of those Lines. The principal officers present were, Henry J. Rogers, Superintendent of the House Line between New-York and Washington; John McKinney, Superintendent of the House Line between New-York and Boston; and Anson Stager, Superintendent of the Lines extending from New-York via Albany and Buffalo to Cincinnati and Louisville. These gentlemen are all long and favorably known, from their former connection with other Lines; and they therefore bring to the discharge of their present duties an amount of practical knowledge which "is being" sensibly felt in the improved condition of the House Lines.

Without dwelling on the particular arrangements effected at this Convention, we will merely add, that the objects of the assemblage were in unison with those avowed in the Call for the National Convention of delegates from the Morse Lines, viz.: the advancement of the Telegraph System to a degree of perfection that will render it more satisfactory to the public and more profitable to the stockholders and telegraphers—consummations most devoutly to be wished for.

It is but just to Mr. Rogers to add, as we do by his request, that he has not yet fully completed the repairs and arrangements that will enable him to render the Line which he now manages as perfect as he expects it to be in a very short time.

But we must not delay mentioning *one* matter in which the proceedings of the House Telegraph Officers are worthy of particular notice. We refer particularly to the stringent rule adopted for excluding from their Lines any and all persons who have in any way forfeited confidence in the discharge of their duty—it being agreed by *all* the Superintendents, that neither one of them will employ any Telegrapher who has been expelled from any other Line for dereliction of duty.

Error Corrected.—Letter from Prof. Morse.—Claim for Electro-Chemical Telegraphing.

Relying on the printer, to make his works correspond with "the copy," when that "copy" is plainly and correctly furnished, in printed form, (our personal supervision being given to the proof-sheets, when manuscripts are put in type,) we were unconscious of any error in reprinting Prof. Morse's testimony, commenced in the last number and concluded in this number of the Telegraph Magazine, until our attention was drawn to the subject of a single error in a single word—though that error is of much importance. We hasten now to correct that typographical error, which may be done most effectually by publishing the letter from Prof. Morse, in which our attention was first called to its existence. We will thank any gentleman, at any time, (as we now thank Prof. Morse,) whose courtesy enables us to correct any error that may occur in this publication, whether that error is merely typographical or otherwise, though our efforts will not be wanting to prevent the necessity of such corrections. All persons who have our December number are requested to correct the error which Prof. Morse points out, by erasing the wrong word.

Poughkeepsie, Jan. 26th, 1853.

Donald Mann, Esq., Ed. Tel. Magazine:

Dear Sir—I have this moment looked over the answers to the "Cross Interrogatories" at page 114 of your 3d number, and I find a most important error, to which I could wish to call special attention, in an Erratum.

In my answer to the *twenty-seventh* cross interrogatory, you have misprinted my answer —making me say, "I do *not* claim to be the first who applied the decomposing effects of electricity to making marks upon paper or other material chemically prepared, for *telegraphic purposes*:"—whereas, *I do distinctly make this claim.* You will see by reference to the document from which you copied, that this is the case.

This fact, you will perceive, is of importance;

for on it is founded my claim to priority over Bain, Davy, and all others who subsequently claim to have invented recording telegraphs, that *mark* by *chemical decomposition.*

By reference to other evidence, you will perceive that, in 1832, the *idea* of such marking was entertained by me; and if you have the testimony in the case of interference with Bain, tried before Judge Cranch, you will find De Witt Bloodgood's evidence, (page 169, and also page 64 of same document,) to having seen the result of such marking, at my rooms, and to which he alluded in an article in the "True Sun," of which he was then editor, June 19, 1834. The date here, I will say, however, is a mistake on both pages 169 and 64. The "True Sun" quoted was not 1834, but I think 1844. I have not the means at hand to ascertain the truth on this point; but infer it from the fact, that Bloodgood saw my chemical marking in 1836 or 1837, and consequently could not refer to this fact in 1834.[*] The error is not material, as to its bearing on the essential fact, but in strict truth it ought to be made correct notwithstanding. The original documents at the Patent Office will correct it, if it is an error.

Very respectfully, your obedient servant,

SAMUEL F. B. MORSE.

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The Aurora Borealis, in its effects upon Telegraphic Apparatus.

THE effect of the American Telegraph Magzine in quickening the attention of Telegraphers towards the phenomena of electricity, as well as towards the practical improvement of the Telegraphic System, is measurably evinced by the letters with which we are favored from all sections of the United States and British American Provinces.

We are receiving much, and are promised more, valuable information, *illustrated by records of practical experience*, from Telegraphers who have worked and watched with their instrments through all sorts of weather for several years. And in this connection, let us impress it again upon correspondents, that even a single fact, well authenticated, is worth generally more than a volume of speculations.

Among the communications just received, is one from George B. Prescott, Esq., on subjects which have excited much curiosity in the scientific world. We allude to the effect produced by the Aurora Borealis on the Telegraph wires; and the different manner in which Electro-*Magnetic* and Electro-*Chemical* Telegraphs are influenced by that effect.

On topics of such deep interest, it is proper to say a few words respecting the character and opportunities of the persons whose experience and observations are communicated to the public. George Bartlett Prescott, the author of the annexed article, has been engaged in practical Telelegraphic duties for more than six years—almost from the earliest operation of Telegraphs in New-England. He was employed two years and a half on the Lines of Morse's Electro-Magnetic Telegraph, and three years and a half as chief Telegrapher at Boston, on the Electro-Chemical Telegraph Line, called Bain's, between-New-York and Portland. He has recently been appointed Chief of the House Printing Telegraph Line at the Boston terminus. His opportunities have been varied and excellent; and our personal knowledge of his capacity justifies us in the belief that he has faithfully improved those opportunities. The public will judge of the correctness of his theories and speculations. Thus much for preface—now for the result of his observations:

The Effect Produced by the Aurora Borealis on the Telegraph.

Donald Mann, Esq., Editor Telegraph Magazine:

DEAR SIR:—I have been requested by several of the Faculty of Yale College, and others interested in scientific discoveries and observations, to give them any information I could gather relative to this subject; and having, during the space of about six years, paid some attention to this subject, I thought it might not be uninteresting to your readers to give a brief account of my observations.

On the Morse, and all other *magnetic* Telegraphs, the only effect produced by the Aurora Borealis is, to increase or diminish the electric current which is used on the line; and hence it is difficult to determine with sufficient accuracy what its power is.

On the Bain, or *chemical* Telegraph, however, the facilities for observing the effects of this phenomenon are much better—indeed, they are as perfect as could be desired.

In this latter system of telegraphing, the line wire is brought into direct contact with the chemically prepared paper; so that any action of the atmospheric currents of electricity on the wires is immediately recorded on the paper. During a thunder storm, the atmospheric electricity attracted by the wires, passes over the same to the chemically prepared paper on the instrument, and thence to the ground. As it passes from the wire to the paper, it emits a bright spark, and produces a sound similar to that of snapping a pistol. Atmospheric electricity never remains for any length of time on the wires; it will, however, sometimes travel many miles on the line before it discharges itself. While writing at the instrument, a loud report and a bright flash announced the passage of an atmospheric current over the wires; as it passed through the paper to the ground, it perforated it in a singular manner; and melting off the small iron wire or stylus which rests on the paper, drove it into the metal disc so firmly that it could not be drawn out without considerable difficulty. The sky was perfectly clear at the time, and there was no appearance of a superabundance of atmospheric electricity. This mystery was however solved in a few days: the storm from which this current emanated shattered several poles at a distance of twenty-five miles from the office; and on comparing notes with several who witnessed the shattering of the poles, I found they coincided in time precisely.

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[*] I do not think the *True Sun* was in existence in 1834. I have a vague impression that it was *subsequently* commenced. Inquiry at the present *Sun* office, to which paper it was antagonistic, would clear up this point.—[The *True Sun* was *not* in existence in .834.—*Ed. Tel. Mag.*]

The effect produced by the Aurora Borealis on the wires, and the record on the paper, is entirely different from that of the atmospheric current. Instead of discharging itself from the wires with a flash and a report, and without the aid of a conductor, as is the case with the latter, it glides along the wires in a continuous stream, and produces the same result on the paper as that produced by the galvanic battery. It is well known that only the positive pole of the galvanic current produces a colored mark on the chemically prepared paper; the negative having the effect of bleaching it. The same is true of the two currents from the Aurora. The current usually commences slight, and produces a light blue line on the paper; gradually it grows stronger, until it becomes so strong as to burn the paper, sometimes through several thicknesses of it; then it gradually disappears, and is followed by the bleaching process. At times it produces a strong magnetic influence on the helix, and at others neutralizes the line current; in the same manner as two batteries at opposite ends of a line would do, if the same poles were pointing towards each other. In my diary of September 29th, 1851, I find the following account of the effects of the Aurora on the evening of that day: "All the lines leading from the city are so strongly charged with atmospheric electricity this evening as to prevent operation. The surplus current on the Chemical Line is equal to one hundred and fifty Grove's cups; and the same seems to be the case on the House and Morse wires. The weather is cloudy, but through the clouds we can occasionally see the brilliant scintillations of an Aurora Borealis." The next day I ascertained that the Aurora, as seen from Providence, New-Haven, and other places, was very brilliant. February 19th, 1852, I find the following description of the effects of the Aurora of that date in my journal: "Towards evening a faint blue line appeared on the paper, which gradually grew stronger and darker, until at last it burned it; then gradually grew fainter until it disappeared; when it appeared again in a new form, bleaching instead of coloring the paper. This singular phenomenon continued until we closed at a late hour in the evening. The Aurora was very brilliant in the evening."

Mr. Rowe, Superintendent of the Boston and Vermont Telegraph Company, showed me specimens of paper taken from instruments on that line, at 12 o'clock at night—three hours after the batteries were taken off—which were covered with light and heavy blue lines and bleachings. These were caused by the Aurora of the 19th February.

Our troubles from the Aurora are not confined to the evenings entirely, though they are more frequent then. On several occasions I have predicted in the afternoon that we should have an Aurora in the evening, judging by the effect on the wires at that time, and I do not recollect that I have ever been mistaken in my predictions.

Thursday, April 22d, 1852, we were much troubled by an atmospheric current; sometimes preventing our working for half an hour or more, and then disappearing for about that time; the current was constantly changing during the whole evening. We had a very brilliant display of the Aurora.

The current from the Aurora seems to change—coming and going—as the waves of the Aurora roll from the horizon to the zenith: sometimes so faintly as to be hardly perceptible, and then so strongly as to emit one continuous blaze of fire; yet always very different from what we commonly term atmospheric electricity, and which we cannot get rid of, as in the latter case, by placing ground-wire conductors in close proximity with the line wire. Yours, &c.,

Boston, Jan. 22d, 1853. G. B. P.

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Complaints against Telegraphs—Errors of Omission as well as Commission.

As the Telegraph Magazine reaches some of the Telegraphers and other officers on every important line in the United States and the British American Possessions, and as it is honored with the approbation of men whose influence may be most beneficially employed in rendering the Telegraphic System more efficient and reliable than it now is, we deem it one of our most important duties to publish all well-authenticated complaints, with the view of securing prompt and effectual measures for the correction of the evils with which the benefits of the Telegraph are measurably accompanied. In doing this, we consult the true and permanent welfare of the Telegraph, as well as the interests of the public—the welfare and interest of both of which parties are, and ever must be, inseparable.

The complaints made below, by a correspondent of the Journal of Commerce, are unfortunately too well founded. The error which he reprobates has been, and is yet, too frequent on *most* of the telegraphic lines. Some few lines are certainly less censurable than others in this matter; but we wish we could say that *any* line is now *wholly* exempt from blame for such sins of omission:

From the New-York Journal of Commerce.

TELEGRAPHIC QUESTIONS.

Messrs. Editors:—Would you insert the following extract of a letter from a neighboring city, which portrays clearly the impropriety of the Telegraph lines withholding the *dates* of the communications given them to be forwarded? They have been asked many times to give the dates, but never, that we have seen, have done it; and, as in the instance below, the *ability* to understand the meaning of our correspondent, when briefly expressed in a dispatch, having reference to previous dispatches, letters, or circumstances, will very much depend on the receiver's being certified of the exact hour and day the dispatch was written. We trust the different lines will see their interest in making their work perfect; or at any rate, that some *one of them* will. Very probably many communications may be without the hour. We doubt if any are without the day of the month. But the office can give the day and hour of their receiving it, which is all that is asked.

D. & Co.

(Extract of a letter from Boston)

"Cannot you excite the attention of the public, through some one of your commercial papers at the seat of trade, to a mismanagement on the part of all the Telegraph companies, (I believe the complaint is not too comprehensive,) which deprives their communications of much of their value? It is this: I lately received a telegraphic dispatch from Cincinnati, and the *Company* states that it is a dispatch 'received at the office, of such and such a line, in Boston, at 22 minutes before 12 to-day.' Well, as I had it 17 minutes before 12, I was satisfied that *here in Boston* there had been no delay. Now, this dispatch says: 'A Draft has been mailed for amount of Bill.' But there was no *Cincinnati* date to it, and in fact I could not find out whether it had been delayed in its passage, and related to a draft which I *had already* received by mail; or whether it assured me of the mailing of *another* draft, upon which I had in a letter just before insisted, as a preliminary without which I could not dispatch more goods by an express line. Have my proposals and conditions been accepted or not? There had been barely time for my letter to reach Cincinnati before the dispatch was forwarded, provided it was forwarded on the day I received it. I did not send the goods, and it afterwards appeared that the dispatch related to the first draft.

"It would add much interest to the communication, if the day and hour of *sending* were mentioned. And this date and hour should be the day and hour of *receiving* the dispatch *in the place from which it is sent.* We can then judge for ourselves of the *execution* of the line.

"Please tell me whether you think the day and hour are purposely omitted, in order to conceal negligent or unskilful operations. It looks like it. At any rate, the line which should do this business right, would attract much custom."

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The Telegraph—the Press—and the Public.

Among the important subjects that will probably claim consideration in the proposed National Telegraph Convention at Washington, on the 5th of March, the relations between the Telegraph and the Press may be ranked foremost in connection with the public interest.

"As one of the Press ourselves, somewhat familiar with daily newspapers," as was remarked on a former occasion, "we speak with all proper consideration due to the Press, as well as to the Telegraph and the Public, when we declare our opposition to having Telegraph Companies or Telegraph officers act in any way as agents in furnishing news, otherwise than as mere 'common carriers' of intelligence furnished to them like other dispatches for transmission."

And, on the other hand, we renew the declaration, that we are equally opposed to any man or men who act as news agents for the Press, and who obtain *peculiar* facilities from the Telegraph because the Telegraph considers it a *public* benefit thus to accommodate *the Press*—we are utterly opposed, we repeat, to any such news agents using the telegraphic facilities thus enjoyed, for the purpose of promoting the speculations of persons in different parts of Europe and America, who may think it profitable to pay those news agents for making a "merchantable commodity" of the telegraphic facilities which are intended only for *public* use through *public* journals. Would there not be—is there not actually—great danger of conflict in the discharge of duty? and is it just to the community generally that any agents who come early in possession of telegraphic news designed exclusively for the Public Press, shall also act as correspondents for speculators in the Old

World or the New? Some of these agents do act in this duplicate or multiform capacity; and, without imputing criminality to their anomalous position, every disinterested reader will probably readily concur with us in suggesting the extreme indelicacy and impropriety of the complicated duties discharged by those news agents who are thus situated.

These remarks are of a general character, intended for all companies, journals and agents, connected with transmission of news dispatches in Europe and America; for the European public are concerned in these matters as well as our American fellow-citizens.

A CASE IN ILLUSTRATION.

Since the foregoing was written, a correspondent inclosed us a copy of the following card—calling our attention specially, as we ask the particular attention of the public, to the words *Italicized*, in which peculiar privileges are promised "in advance of all other private communications":

Telegraphic Communication between America and Europe.—JOHN HUNTER, *Agent* in England of the *New-York Associated Press*, respectfully begs to announce to the Mercantile and Business community that TELEGRAPHIC DISPATCHES, to and from any part of Britain, or the Continent of Europe, will be punctually forwarded if confided to his care.

Dispatches should be forwarded as early as possible before the sailing of the steamers, in envelopes, unsealed, and addressed TELEGRAPHIC.

AGENTS.

In Liverpool—J. HUNTER, No. 2 Paradise st.
In Halifax—R. NUGENT, Editor of the Sun.
In Boston—W. G. BLANCHARD, Office of the Mail.
In New-York—D. H. CRAIG, Office of the Associated Press, No. 3 Hanover-st., (up stairs.)
In Philadelphia—W. W. FULTON, Ledger Building.
In Baltimore—C. C. FULTON, Sun Building.
In Charleston—A. CARROLL, Courier Office.
In New-Orleans—E. FULLER, Merchants' Exchange.
In Louisville—J. W. CLARKE, Courier Office.
In Cincinnatti—R. SMITH, Merchants' Exchange.
In Buffalo—A. D. LEVIEN, Commercial Office.

☞ Correspondents in Europe should, to insure promptness in the delivery and transmission of dispatches, forward their communications for the United States through the Agency at Liverpool. By so doing, *their dispatches* will be transmitted over the wires, *in advance of all other private communications*, on the arrival of the steamers at *Halifax*, *Boston*, or *New-York*.

Charges moderate, and accuracy and reasonable promptness in the transmission of dispatches guaranteed, or the money will be refunded.

J. HUNTER, Telegraph Agent, No. 2 Paradise-st., Liverpool, England, and General Agent in England for the lines of Telegraph between Halifax, Nova-Scotia, and New-York.

(Remarks of Editor Telegraph Magazine.)

The law of the land, as well as the dictates of propriety, expressly forbid such operations as Mr. John Hunter, of Liverpool, thus promises to accomplish through his Associate Agents in this country.

What Company or Telegrapher in "Boston or New-York," will dare acknowledge the criminality of transmitting "*their* dispatches" "over the wires in advance of all *other* private dispatches on the arrival of the steamers" from Europe?

If this is not done, then is the advertisement of Messrs. Hunter & Co. a humbug up oncustomers—saying nothing about the Press, the Telegraph, and the Public.

We cannot believe that the responsible Editors of the Associated Press are aware of any such organization as their agents Hunter, Craig & Co., have effected for transmitting "private communications" for their personal customers, through the facilities which they claim to possess in consequence of their position as employées of a distinguished portion of the American journals.

The "Associated Press" enjoy peculiar telegraphic privileges on account of their high position, and in the confidence which that position affords that those privileges will not be used for any purposes of private speculation or peculation. Have the agents or employées of that Association the right to use these important telegraphic facilities for purposes of private gain; or do Messrs. Hunter & Co. publish a false advertisement for the purpose of securing customers and profits which otherwise could not be obtained by them?

In connection with the foregoing—

It is proper to refer to one of the views of the case, which we expressed in the first number of the American Telegraph Magazine, last October:

"This arrangement opens the door to the very frauds, in news, of which the Herald, Tribune, and other members of the 'Association,' so justly complain.

"Let us look for a moment at the way in which the matter might work. The foreign news comes to the agent of six papers in this city, and to no other person. For satisfactory rasons, it is sometimes retained in his hands quite a number of hours before publishing. Now, during this interim, *what is to prevent this Agent from corresponding with cotton and provision dealers in distant cities, and posting them up on foreign prices, a little* in advance of the newspapers? He, or any of his clerks or associates, could easily do it in a 'cypher' that no one could detect, and might realize something handsome by so doing.

"Now, we do not mean to intimate that any thing of the kind *has* been done. Yet it is one of the abuses of which this system seems to be capable. But, admit the agents of the 'Association' to be always persons above suspicion or corruption—even then there is opportunity, which would not otherwise exist, for unprincipled persons to fabricate 'false news.'

"Gentlemen of the 'Association!' THE TELEGRAPH SHOULD BE OPEN AND FREE TO ALL—*giving peculiar privileges to none;* and yourselves preached this doctrine strongly enough when you thought 'Smith's bull' was disposed to gore your ox."

Integrity and Abuses of the Telegraph—Telegraph Managers and the News Robbers.

Boards of Directors—Superintendents—Appointments, Removals, &c.

ABUNDANT evidence is flowing upon us from distinguished Telegraphers in all sections of the Union, showing the efficacy of the "Telegraph Magazine" in directing attention to the correction of errors and abuses, and the general improvement of the American Telegraph System.

In view of the peculiar difficulties of the Telegraph—in view of the discord and litigation, and the conflicting claims of various parties interested as inventors, constructors, officers and stockholders, throughout the United States—we may be pardoned for enjoying satisfaction that our well-meant efforts are generally and cordially appreciated by the generality of Telegraphers who have no interest aside from the honor and welfare of the important and confidential enterprise with which their and our feelings are identified.

On no subject discussed in our pages thus far, has deeper interest been manifested than in the "Abuses of the Telegraph," to which we have directed attention in each of the three numbers of this Magazine already published.

(*First Case—on Seaboard Line.*)

1. One of the two remarkable cases of malpractice presented for consideration, was that which the New-Orleans Picayune charged as having been perpetrated on the Seaboard Line of Telegraph by some Telegrapher at New-Orleans—the culprit being accused of a "regular system of swindling, in selling to other parties the news" which was telegraphed exclusively for that distinguished Journal—the Editors of which declared that "others in that city" daily complained of "similar foul play." The directness of the charge and the energy of the accusers were ultimately successful in correcting that villany by expelling the criminal who had been filling his pockets by invading the sanctity and plundering and selling the "confidential" dispatches passing over that important Line—a service for which all honorable men are indebted to the fearless exposures made by the Editors of the Picayune. Full credit is due to the official managers of that important Telegraph Line for promptly attending to the well-founded complaints against the rascality of the culpable Telegrapher.

(*Second Case—on Interior Line.*)

In connection with the transaction at New-Orleans, we stated in the October number of this Magazine that—

"A complaint similar to that of the 'Picayune' was at one time made, and in some degree substantiated, by an Agent of the Associated Press of New-York. He charged, and we believe produced evidence of the fact, that the news bought and paid for by the 'Association' was stolen and sold to other papers, by several telegraphers, who colluded together for the purpose of making money out of the infamous business. How this affair eventually terminated, we are not aware; but this much we can say, neither the Press nor private individuals can render a more important service to the 'Telegraph,' or one that will be more highly appreciated by all honorable men engaged in that business, as well as by the community, than by immediately naming and fully exposing every person proved to be directly or indirectly interested in such nefarious practices; and the Managers of Telegraph lines will inevitably find it to be the worst possible policy to endeavor to 'hush up' such matters, and retain the delinquents in their offices."

When called upon by a correspondent to particularize the Line or Lines, on which these latter outrages were perpetrated, we replied, in the November number, as follows:

"'Inquirer' will perceive that we do not make the charge, but merely state that Mr. Craig, Agent for the 'Associated Press,' did do so, and we believe, fully sustained what he said. Still, we have no sort of objection to stating with reference to what line the charge was made—to the end that no other telegraphers may suffer obloquy or reproach for a piece of rascality which we would wish to believe had never been committed more than once, or on more than one line.

"The Telegraph upon which the persons accused of 'news swindling' were engaged, is the 'Atlantic and Ohio Line,' extending from New-York to Pittsburg, and was at that time and still is under the superintendence of Jas. D. Reid, Esq. The persons said to be engaged in the news speculations, were employed in the company's offices at Pittsburg and Philadelphia. The evidence against them seemed to be conclusive, inasmuch as one of the honorable men engaged on the line, seeing a criminal conversation passing through his office, between the conspirators at Pittsburg and Philadelphia, allowed his machine to run, and so secured on paper, and preserved, their whole plan of operations. Had he not been later in his office than usual, it would have passed through undetected.

"We believe Mr. Reid was put in possession of all the facts, and that he promptly discharged those who had thus disgraced themselves and the line which employed them." * * *

In the mean time, other parties, well entitled to credence, objected to the remarks we made exonerating Mr. Reid from culpability in the matter. No one seemed better qualified to impart information, than the gentleman who now informed us that we had rendered undue credit to Mr. Reid for excluding the news-robbers from all further connection with the Lines he superintended.

Determined to render justice to all concerned, as far as in our power, we then made the following explanations, on the authority of two gentlemen well known in telegraphic affairs—viz. CHARLES T. SMITH, who has occupied several of the most responsible positions from the earliest days of telegraphic enterprise; and JAMES BAILEY, now chief operator at New-York of the New-Orleans Seaboard Line—both of whom were recently in Mr. Reid's employment, and hold written *evidence of the rascality of the parties implicated in the robberies.* To the end that no pretext shall be furnished to any one for saying there is any suppression of fact or remark in the December article wherein we published the substance of Messrs. Smith and Bailey's statements, we reprint the whole, entire—with the further purpose of enabling the reader to judge how far, if it all, the subsequent course of Mr. Reid militates against the statements of those gentlemen and the acknowledged facts of the extraordinary case:—

(From the Telegraph Magazine for Dec.)

STATEMENT OF MESSRS. SMITH AND BAILEY.

In the preceding numbers of this Magazine, we published some articles respecting the operations of a certain few of the Telegraphers, who were (and it seems yet are) employed on the short line between Philadelphia and Pittsburg, belonging to the Atlantic and Ohio Telegraph Company, which line was originally constructed by Mr. O'Rielly for that company, and is now managed by Mr. James D. Reid, as Superintendent, under the direction of the Company; forming part of a range known as "National" Telegraph Lines.

Those articles contained allegations that certain Telegraphers at Philadelphia and Pittsburg, employed on the range thus superintended by Mr. Reid, had been detected in selling the private dispatches belonging to the New-York Associated Press, to several papers or news agents, and pocketing the money received for them. We said in our former notice of this disreputable affair, that we believed that James D. Reid, Superintendent of the Line, on being put in possession of the facts, promptly discharged the delinquents. We are now informed that the above reference to Mr. Reid is erroneous.

Mr. Bailey, now Chief Telegrapher in the New-York office of the "New-Orleans Coast Line Telegraph," and Mr. Charles T. Smith, a gentleman well known in the telegraph business, have taken occasion to inform us of the material facts in the case, which were pretty correctly stated by us before, except so far as they referred to Mr. Reid's course of action.

At the time the "News Robbery" was being perpetrated, Mr. Smith informs us that he was Chief Operator in the New-York office of the Atlantic and Ohio Line, that Mr. Bailey was his assistant, and that on his getting possession of conclusive evidence, in the *handwriting* of the *conspirators*, that certain persons at Philadelphia and Pittsburg, employed on the same line with himself, had conspired together to defraud some of the customers of the Company, by feloniously *exposing* and *selling* their private dispatches to other and rival parties, he at once presented the whole matter to Mr. Reid, who *refused* to take any action in regard to it; when he, Smith, determined that the affair *should* be noticed, presented it to the Board of Directors of the Company, who *did* act upon it, by promptly discharging the delinquents.

But it is not a little surprising to learn, as we do from Messrs. Smith and Bailey, that the very persons thus removed for grossest cause were immediately *re-employed* by James D. Reid, and that they are still employed in their former confidential and responsible positions—positions which they eminently disgrace.

We have already had occasion to remark, that the Telegraph business demanded the fullest confidence of the public: it cannot be sustained without it. But how can business men repose confidence in a line which employs agents that have been detected in abusing the trust reposed in them, in feloniously disposing of the information paid for by, and belonging to others, to replenish their own pockets? As well might the Postmaster General continue a deputy in office who had been convicted of robbing the mail, and ask the public to believe that their letters would be safe in his hands.

Telegraph Superintendents certainly cannot *know* that their employees are all honest. They are liable to be imposed upon. But surely they *can* avoid employing persons who have shown themselves dishonest and unworthy of confidence.

The Telegraph business, as at present conducted, is susceptible of great abuses, many of which are very difficult of detection; but when gross and flagrant outrages are detected, and proved to have been committed, the public, as well as all honorable men engaged in the business, have a right to demand that the delinquents receive some more signal evidence of the disapprobation of the Company which employs them than a *sham* removal one day, to be followed by a re-appointment the next. A few such experiments on the good nature of the public would not probably increase the business of the line or augment its quarterly dividends. It may be an unpleasant and an ungracious task to discuss such matters; but it is a necessary one, and we shall not shrink from it.

We have no disposition or intention to injure in any way the parties connected with the transactions above referred to. Such a proceeding would be foreign to our purpose, and unnecessary. But we shall, in this or any other similar case, call public attention to any Telegraph Company or Telegraph Superintendent that (for personal or any other reasons) retain persons in places of trust and responsibility, whom they *know* to be unworthy of confidence.

If in any case we err in our statements, our columns are open to correction: but, in this matter, our informants are every way reliable, and hold the *positive proof*, written *telegraphically by the persons implicated*, of the truth of what they say. * * *

With the foregoing statements, the reader may now be introduced to a new phase of this interesting business—in which Mr. Reid and the Board of Directors actually appear as searchers for information which they themselves already possess, as the record sufficiently showeth. Particular attention is respectfully invited to the statements of Mr. Reid, in his communication to the Board of Directors:

Office of the Atlantic and Ohio Telegraph Company,
Philadelphia, Jan 6th 1853

To the Editor American Telegraph Magazine:

At a full meeting of the Board of the Atlantic and Ohio Telegraph Company, held this day, Mr. James D. Reid, the Company's Superintendent, presented the following communication:

Philadelphia, Jan. 5, 1852.

To the President and Directors of the Atlantic and Ohio Telegraph Company:

(1.) GENTLEMEN:—In the New-York American Telegraph Magazine, for December, there appears an article containing charges against the management of your line, of a character too serious to be passed without investigation.

(2.) The burden of the charge being directed towards me personally, I am the more anxious that the course taken in the case presented be scrutinized—that, while *you* may find *means of defence*, on the one hand, by which you may be able to *repel the charges* thus made upon your Company, my course as your Superintendent may not be made the means of injury to you.

(3.) The logical construction of the article is so disingenuous,* representing,

(4.) First, My refusal to take notice of the charges made against you.

(5.) Second, Your dismissal of various parties on the information of a subordinate, regardless of my prerogatives.

(6.) Third, My immediate re-appointment of the same parties regardless of your dismissal.

(7.) Fourth, That the whole proceeding was a "sham," implies either malice in the writer, or a charge upon the whole Directory as *colluding with me to sustain our employees in practices disgraceful in any business, and especially so in yours.*

(8.) I therefore respectfully place the matter before you, that you may make such reply as the nature and facts in the case may seem to justify.

I am, gentlemen, yours respectfully,
JAMES D. REID, Supt.

Whereupon, on motion of Dr. Wm. Pettit, of Philadelphia, it was resolved,

That Allin Robinett, Esq., of Philadelphia, be a committee to communicate with the publishers of the American Telegraph Magazine, and to appoint two disinterested persons, who shall be acceptable both to our Superintendent and said publishers, who will, by courtesy, examine into the charges in No. 3 of said Magazine, page 131, and report for publication in said Magazine, so as to protect the honor and interest of our company, the parties, and the public.

Resolved, also, That a copy of Mr. Reid's letter, and the above resolution, be sent to the American Telegraph Magazine for publication.

In accordance with which they are now sent you. A. B. CUMMINGS, Secretary.

(Remarks by Editor Telegraph Magazine.)

"The logical inference of the above is so disingenuous," that it would doubtless strike any person, uninformed about the matter, that the charge conveyed in the article, to which exception is taken, was entirely new, both to Mr. Reid and the Board, and the facts in the case unknown to and unsuspected by them! We will see how *this* is.

Mr. Reid says to the Board that the December number of the Telegraph Magazine contains charges against the management of the Atlantic and Ohio line "too serious to be passed without investigation."

The charge to which Mr. R. so justly refers as a "serious" one, was, in all its length and breadth, simply this:—that several persons employed on the line above mentioned, in important and reponsible positions, had been *detected in certain practices*, the *most reprehensible, infamous, and disgraceful* that could by possibility be connected with the Telegraph business—practices which can only be parallelled in the violation of the mail by a postmaster, its sworn guardian—practices which the statutes of the State had *denounced as*

*** We would like to know what the "logical construction" of that sentence is; its grammar is likewise curious.**

felony in advance of the commission of the crime. In a word, the parties referred to had been detected in *purloining and selling private and confidential dispatches* to rivals in business of the persons who had at great expense procured the information contained in said dispatches, and who were alone entitled to them:—And the "*serious charge*" further was that the persons employed on the Atlantic and Ohio line as aforesaid, and detected in the rascality above recited, were discharged and IMMEDIATELY REINSTATED in their former RESPONSIBLE POSITIONS.

Such is the "serious charge" which NOW "cannot be allowed to pass without INVESTIGATION."

We would inquire of Mr. Reid and the Board, why it never demanded investigation BEFORE?—for we have in writing *Mr. R.'s own authority* for the *truth of every statement* we have made about the matter, and to show that *the whole thing* was *well known and understood*, both by himself and the Board, *for a year past.*

Mr. R. says our former article contains a serious charge against the "*management*" of the line. Precisely so. We do not know whether the Superintendent or the Directors *manage the line*, or whether they manage it jointly. But this we do know, that whoever *is* responsible for its "management" cannot take too early on opportunity of investigating the "serious charge" above referred to, and discovering if possible the urgent necessity which impelled him or them to discharge from important positions, for grossest offences, several persons on Monday, and then to replace them in the *same positions* on Tuesday or Wednesday; and, if the discovery should be satisfactorily made, we advise that no time be lost in enlightening the patrons of the line, and the public generally, upon the matter, so that they may at least know the reasons which make it proper that their confidential communications should be intrusted to the "honor" of *men who are known to have violated* the confidence necessarily reposed in them, for the sake of a few dollars.

Mr. Reid says, in the second paragraph of his communication to the Board, that the burden of the charge is directed against *him* personally. In this he is in error. He states in his *first* paragraph that the charge is against "the management" of the line. In THIS *he is correct.* So far as he is responsible for that "mangement," just so far it is directed against him, and no farther.

With regard to what is contained in the 4th, 5th, and 6th paragraphs of Mr. Reid's communication to the Board, we have only to say that we stated in our former article that we were *informed* by a perfectly reliable person, who had good opportunities for information, and whose name we gave, that Mr. R. did refuse to take notice of the charges against the news robbers, that the Board did discharge them, and that Mr. R. did reëmploy them. But it is not of the slightest importance to the public, whether Mr. Reid *or* the Board of Directors be responsible to answer the "serious charge," which *the former admits to be true, and no one has yet denied.*

The 7th paragraph of Mr. R.'s communication intimates that, inasmuch as we insinuate that the discharging of several operators for frauds upon the public, and then reëmploying them the next day, was a mere "*sham*," and nothing more or better, we must either do so maliciously, *or* charge the whole Directory with colluding with him in sustaining employées in practices disgraceful in any business, and especially so in the Telegraph business.

Now, we submit to any sane man, whether there is any reason to infer "malice" from any thing we have said, or any position we have taken; and also whether there is not good cause for believing the action of the "managers" of this line, in the matter under consideration, to have been a "*sham?*"

Suppose that Postmaster Brady should detect several of his clerks in breaking open the letters belonging to E. K. Collins, and exhibiting their contents to Samuel Cunard, or some other rival in business, and putting five dollars in their pockets for each operation of the kind, and that he (the Postmaster) should *discharge* the said clerks on Monday and *reëmploy* them on Tuesday. Will not every one say that such a proceeding would be a "sham" and an outrage? Yet it would be a less flagrant case than the one under consideration.

Communications received in a Telegraph office should be held as sacred and inviolable as the secrets of the confessional. It has been decided by our courts that, even to secure the *ends of justice*, a Telegrapher could not be compelled to testify as to information received confidentially for transmission over the wires; and Superintendents and Directors that have not already done so, will do well to consider whether it is either prudent or proper to pursue the course of the Atlantic and Ohio Line, and retain persons in responsible places, who have no better appreciation of the requirements of their calling, and no higher sense of propriety and honor, than to be guilty of practices which Mr. Reid justly characterizes as "*disgraceful in any business*," and especially so in the *Telegraph* business.

We shall be glad to hear from Mr. Robinett, and if we can be of any service in the investigation which they propose, we are at their service. But we can hardly see in what way we can facilitate the matter. *Mr. Reid and the Directors are possessed of all the facts in the case*, and have been *for a long time past.*

Still, we will give them all the assistance in our power, in any investigation which will tend to "protect the honor and interest of the company, the parties, and the public."

◆

Forged Dispatches, &c.—Letter from President of Ohio and Mississippi Telegraph.

Among the various matters which we are compelled to defer till the next number, is an article with further proofs respecting the forged dispatches delivered to a lady at a Telegraph office in St. Louis, &c. We have been handed a letter from the President, inclosing one from the Superintendent of the Ohio and Mississippi Telegraph Company—as the President requested the papers should be handed to us; and we have taken measures for obtaining further particulars from the gentleman and lady, now in this city, who were made the dupes of the imposture, and who promise to furnish copies of the forged dispatches, for which payment was taken by some one in St. Louis.

This matter can and will be traced, beyond all doubt; and we refrain from saying more till we can present the additional corroboration that is promised in time for our next number. The witnesses in the case are known in St. Louis, as well as here; and they confirm every essential statement made upon the subject, as will be seen hereafter.

It will afford us pleasure to coöperate with President McGunnegle in unravelling the history of the forgeries—the fact of which forgeries, undisputed as it is, proves the necessity for thorough investigation.

◆

New-York, Albany, and Buffalo Telegraph Line, and other Lines.

The Company owning the above-mentioned Line, of which Mr. Faxton is President, have bought the line that was built by Mr. O'Rielly, under the name of the New-York State Telegraph, using Bain's patents. This arrangement greatly increases the facilities for business on Faxton's Line, while it diminishes competition—and, we may add, raises prices, as the rates between New-York and Buffalo, which were lately forty cents for ten words, are now raised to fifty cents, &c.

It was reported that the House Printing Telegraph Line on the same route would join in one combination or consolidation with the first-named company; but, for causes needless for us to specify, it still continues "fighting on its own hook."

The Talking Telegraph—Sounds versus Signs and Signals.

With all proper reverence for the respective merits of Recording and Signalizing Telegraphs—without any disparagement to the ingenuity or efficiency of either of those different modes of electric intercommunication—we must confess that we have witnessed nothing in the practical management of telegraphic business, that interested us more than an exhibition which we recently witnessed at the Cleveland Junction office of several western lines, constructed and managed by Col. Speed and J. H. Wade, Esq.

We refer to the admirable management whereby all the business at that important junction is transacted (accurately and economically, "as we are informed and believe") by the agency of *sounds* instead of signs—a sort of "Talking Telegraph," which is so well understood by *all* the officers on duty there, that although there were six instruments at work while we were temporarily present—making a clicking noise reminding one of a watchmaker's shop—a sort of Babel-like confusion, which would seem utterly chaotic to the uninitiated, or even to ears not thoroughly practised amid the conflicting sounds of so many instruments—although there were six instruments at work, we repeat, in one small-sized office, there was such apparant order in the transaction of business, that we were not surprised when Col. Speed informed us that this mode of telegraphing had been used at that important station, and at several other offices on the Erie and Michigan Line, during the last two years; in all which time, the Telegraphers preferred to dispense entirely with the *recording* apparatus, relying wholly upon the ticking of the instruments—upon SOUNDS, and not upon SIGNS.

Many—perhaps we might correctly say most—Telegraphers can "read" more or less readily by sounds, and therefore *that* is not the subject of our wonder. But we were surprised to see the *whole* business of extended lines, at a junction so important as Cleveland, transacted *exclusively by sound*, without any use of recording apparatus—transacted satisfactorily, too, amid the apparent confusion incident to the clicking of so many instruments in such close proximity.

But we will not dwell further at present, though the subject is worthy of more extended remark, from its important connection with telegraphic enterprise generally. And we close, for the present, by copying a brief article from the "Tribune," in which some writer expresses himself in reference to the matter, though with an allusion to Prof. Morse which is not exactly consonant with the statement made in our last Magazine by the Professor himself, who must certainly be considered the "first authority" respecting the manner in which "it occurred to him" to use "the motion thus obtained" for recording by "dots and lines."

From the Tribune, Jan. 18.

THE ELECTRIC TELEGRAPH.—SOUNDS VS. SIGNS.

The great feature of Prof. Morse's invention, and that which distinguished it from the electro-magnetic telegraphs in England and other parts of Europe, called the "Needle Telegraphs," was this: the electro-magnetic bar or needle had been used merely to point to letters, or make signs for telegraphic purposes. It occurred to Prof. Morse that the motion thus obtained might be used to make dots and straight lines of unequal lengths, on paper moved by clock-work, and that these marks might stand as representatives of the letters of the alphabet.

The Company owning the Telegraph line running from Buffalo to Milwaukie, called "the Erie and Michigan Telegraph Company," working under Morse's patent, have for some time past discontinued the practice of recording the signs produced by the process above mentioned, and have instead thereof received their messages by sound. This they have done *for the last two years*, without interruption, having found that they *could receive three messages by sound* in the *same time* which would be occupied in *receiving two under the other system;* and moreover, that in receiving by sound they *made fewer mistakes* than they were liable to in the use of the dots and dashes, and also *dispensed with half the number of operators.*

The mode of receiving messages by sound is very simple, and one operator is sufficient instead of two, who are required when the signs are recorded. The operator sits by his table in any part of the room where the message is received, and writes it down as the sounds are produced. The different sounds are made by the striking of the pen lever upon a piece of brass: thus, three raps in rapid succession are made for the letter A, two raps, an interval, and then two raps more, are made for B, and so forth.

◆ ◆ ◆

The Japanese Expedition—Another Telegrapher appointed.

Our ruling powers seem determined to provide an adequate supply of "lightning," as well as a liberal share of "thunder," for the Japanese Expedition.

In addition to the appointment of Mr. Draper, late of the O'Rielly Telegraph at Milwaukie, we have the satisfaction of adding now, that Mr. Williams, of Utica, late of the O'Rielly Telegraph office in New-York, is also appointed as a telegrapher for the Expedition, now nearly ready to sail for Japan.

It is already known to the public, that some sets of telegraphic instruments are included among the "curiosities" supplied to this expedition, for the purpose of showing his Japanese Majesty that the "outside barbarians" know a few things as well as his own subjects; and it is also known that sufficient wires and batteries are also sent, to enable the Commodore to communicate with the shore, or with the vessels of his fleet when at anchor. Some officers of the Expedition also qualified themselves to work the Telegraph, if necessary; but it was finally deemed best to appoint some professional telegraphers to attend to the duty, and hence the appointment of our friends Draper and Williams.

While we wish those gentlemen "a pleasant time of it," wherever they may be, we must express our doubt whether the fleet reaches Japan in a hurry, as we apprehend there will soon be need for its services nearer home, unless we greatly mistake the "signs of the times" in our foreign relations.

◆ ◆ ◆

House's Printing Telegraph—Its Character and Achievements.

The improvements made in the "House Printing Telegraph," since the days when that mode of telegraphing was first tested between Cincinnati and Louisville by the instruments which Professor House constructed for Mr. O'Rielly, in 1847, have been signally illustrated by some of its recent achievements.

Although we do not concur with some of our friends in reference to *all* the supposed advantages of telegraphs which print Roman letters over those which print letters by dots and lines, we freely confess our satisfaction at every improvement made in any way for the accurate and speedy transmission of intelligence by the "lightning lines," no matter under what patents those lines are organized—as, for instance, in the successful experiment at Cleveland, for using *sounds* instead of marks.

Competition is healthful for the public and for individuals; and it shall never be seen, while we control these pages, that the interest of any one system or patent can blind us to the merits or prevent us from expressing satisfaction at the success of any other mode of telegraphing.

With these feelings, we take pleasure in recording the following testimony to the admirable manner in which some recent important documents were transmitted over the House Line between Washington and New-York. The New-York *Daily Times*, of the 6th of January, says:

"The special telegraphic dispatch from

Washington which we publish this morning, giving full copies of the Clayton Treaty correspondence, was sent over a single wire by Mr. A. B. Talcott, of House's New-York and Washington Printing Line, *in forty-eight minutes.* Such dispatch is extraordinary and worthy of commemoration. The documents contain over fifteen hundred words, and the work was accomplished at the rate of thirty-two words per minute."

It will afford us satisfaction to chronicle any and all such achievements; when we know, as we are sure was the case in this instance, that the dispatches were transmitted not only *quickly*, but *accurately*. We may add, by the way, that this feat is nothing more than might be expected from a good instrument, with a telegrapher so well qualified as Mr. Talcott for the duties of his responsible station.

In connection with the foregoing statements, we intended to publish a description of the House Telegraphic Machine, by which these creditable feats were accomplished; but we are compelled to defer the insertion of this description till a future number of this Magazine, for the purpose of procuring the engravings of diagrams necessary for elucidation.

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Ohio, Indiana and Illinois Telegraph—its Condition and Prospects.

The Ohio, Indiana and Illinois Telegraph Line extends from Chicago (via Toledo) to Cincinnati; also to Dayton, Indianapolis, Lafayette, Logansport, Vincennes and many other towns and villages in the States through which it runs. No line in the West has a better or more profitable location than this.

The business of the western country requires an immense amount of telegraphing. The produce and provision trade, in which, in some way, almost the whole population is engaged, requires a more liberal use of the lightning than any other business. The receipts of the line are already large, and constantly increasing. The Company is out of debt, with money to some extent in the treasury. Truth compels us to say that the affairs of the Company and line have been managed very loosely, to use a mild term. The Superintendent seems to have had entire control, and his administration has certainly not been of such a character as to inspire stockholders with much confidence either in his integrity or ability. At a recent meeting, he, together with the President of the Company, took very extraordinary means to prevent stockholders from a distance from inquiring into their proceedings, or procuring any information about the line. But several of the Directors, who are men of as high standing and reputation as any in Indiana, (being connected with railroads and banks,) insisted that distant stockholders should have fair treatment; and another meeting was called to be held on the 2d of March, in spite of the opposition of the President, Secretary and Superintendent.

There can be no question that this line, properly managed, (which we doubt not the stockholders will attend to,) can and will pay large dividends.

The shares of stock represent $50 each, and subscribers paid the full amount on them, unlike some lines where the shares represent an amount equal to twice the money paid by those holding them.

◆

New-York and New-England Union Telegraph, between New-York and Boston.

John A. Lefferts, Esq., has resigned the Superintendency of the New-York and New-England Union Telegraph Lines, having offers in other business which he deemed it prudent to accept. We believe that Mr. L. had given full satisfaction to, and up to the time of his resignation had retained the entire confidence of, the Company that employed him. The same industry and intelligence which he brought to bear in favor of that Company's interests, applied to his own affairs in any business, cannot fail of insuring success.

Gustavus Swan, Esq., has been appointed Superintendent of the above-mentioned line, as the successor of Mr. Lefferts. Mr. Swan has been engaged in the Telegraph business for several years, and always in important positions. No one, in the early and dark days of the New-York and New-England line, contributed more to its triumph over all the difficulties, than did he; and we venture to say that the influence of no single person has brought more business to that line than his. We congratulate him on his present position—alike honorable to him receiving it, and judicious in the Company making it.

◆

The People's Telegraph Line, between Louisville and New-Orleans.

We expected to be able to give a full exhibit, in this number, of the present condition and future prospects of the above-named line.

We anticipated being able to examine its books, converse with its officers, and procure full information concerning its present indebtedness, and the probable time at which a continuance of its present receipts would liquidate the same. But we have not been able to procure as full information as we desire, and postpone our exposition of the affairs of that Company to a subsequent number, when we shall be able to give stockholders here and elsewhere some interesting and valuable information, in reply to inquiries from many of them.

Keeping Time with the Telegraph—Further Illustrations.

In the first number of the Telegraph Magazine we copied from the Journal of the American Association for the Advancement of Science a report made to that body by Professor Mitchel, concerning the employment of the O'Rielly lines in connecting the chronometers of the Philadelphia and Cincinnati Observatories, for the purpose of registering the astronomical observations simultaneously with the passage of objects through the telescopic field of vision at either terminus.

The following article records some interesting experiments for testing the powers of the Telegraph in regulating time along other extensive lines:—

The Buffalo Express says: "We witnessed a curious experiment yesterday at Morse's telegraph office, which we had before heard, but had never seen. It was nothing less than the ticking of the clock in New-York city, heard and seen at this end of the line. The experiment was most perfectly performed, the regular vibrations of the pendulum in New-York being registered on the paper at precise intervals, and heard by the striking of the pen-lever at the same instant.

"This is done by an operation similar to the method of telegraphing itself. It is well known that the bringing in contact of the positive and negative poles of the batteries forms what is termed a circuit, and produces characters at the pleasure of the persons so bringing them together. One of these wires is connected by a very fine wire to the pendulum of the clock, partaking of its motion; the other is fastened to the side of the clock, so that the pendulum shall strike it in swinging back and forth. When the pendulum strikes, the two wires being brought together, a circuit is formed, and a stroke of the pendulum makes a dot upon the paper, and this is repeated as often as the pendulum strikes the wire in the side of the clock; so that the ticking of the clock in New-York is heard even more distinctly in Buffalo than in the office where it is placed.

"Last evening a similar experiment was successfully tried between Bangor, Me., and Milwaukie, Wis., by connecting the wires of Morse's and Speed's lines, at this point, and then proceeding as mentioned above.

"A clock ticking at one place, and being heard in another, between two and three thousand miles away, is certainly something curious in the age of marvels."

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American Polytechnic Journal.

This is the title of a new monthly magazine, the first number of which has been laid on our table. It is devoted to Science, the Mechanic Arts, and Agriculture; and promises to be one of the most valuable of its class of publications. It is conducted and edited by Prof. Page, J. J. Greenough and C. L. Fleischmann, Esqs., and is issued both in this city and Washington, at $3 per annum. The conductors of the journal above referred to procure patents for inventors; and, having been long connected with the Patent Office at Washington, they doubtless have a very intimate knowledge of all its peculiarities—which information may be made to benefit those wishing to procure patents for their inventions.

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Southern Michigan Telegraph—so called—and who constructed it.

Inquiry is frequently made of us about the persons who constructed, or are responsible for the construction of, what is called the "Southern Michigan Telegraph;" a line which runs, or did run, partly along the railroad route between Monroe and Chicago. We are also frequently asked about the value of its stock, of which considerable is held by persons about New-York and Providence.

On the latter topic inquirers are respectfully referred to the present officers of the company.

On the first subject, however, we are furnished with a copy of the Detroit Daily Advertiser, of October, 1849, containing an advertisement, showing that some gentlemen at Rochester, (Alvah Strong, Samuel L. Selden, Hervey Ely, &c.,) acting as directors of an association there, claimed to have constructed the line through the instrumentality of their "sole and only agent, Josiah Snow." The importance of some of the inquiries induces us to re-publish the advertisement, for the information of all concerned, as it is now controverted who were the parties engaged in the operation:

Monroe and Chicago Telegraph Line.

At a meeting of the Directors of the Atlantic, Lake, and Mississippi Telegraph Company, held at Rochester, N. Y., August 15th, 1849, it was

Resolved, Whereas, Josiah Snow, of Detroit, Michigan, under instructions from this company, has obtained subscriptions for, and has been and now is constructing a line of Telegraph from Monroe, in Michigan, to Chicago, in Illinois, we do therefore constitute the said Snow the *sole and only agent* of this company, to collect subscriptions for the aforesaid object, and apply said subscriptions, when paid to him, to the construction thereof.

H. Ely, Secretary *pro tem.*

The same parties are said also to claim to have constructed one of the lines between Chicago and Milwaukie, through the instrumentality of the same agent, Snow, who, we perceive by the papers, is now operating among the Canadians, in reference to some new lines.

It may be added in this connection, that the Southern Michigan and Northern Indiana Railroad Companies are now arranging for a new line of telegraph along their route, for the express accommodation of their railroad business.

◆

British-American Telegraphs and their Tariff of Charges.

A LETTER from O. S. Wood, Esq., Superintendent of the Montreal Telegraph Company, inclosing an advertisement of the Canadian Telegraph Tariff for insertion among the advertisements in the American Telegraph Magazine—concludes thus:

"We are extending our lines, and will likely soon have additional Tariffs to send you.

"I hope your enterprise will prove a paying one; it is of great advantage to the Telegraph community, and it will afford me much pleasure to use all the influence I possess in Canada in your favor.

"I see that you intend visiting Canada. I hope you will favor us with a call.

"I am, sir, your obed't. serv't.,
"O. S. WOOD."

◆

"National Telegraph"—An Alliance of several Lines in the U. S.

As we stated in previous numbers of the Telegraph Magazine, a union in business relations has been effected between *some* of the Lines on certain routes, heretofore designated as "Morse" or "O'Rielly" Lines. This union might, perhaps, better be termed an "alliance," as we believe it extends no farther than the promotion of harmony in the operations and connections of the several Lines embraced within its scope. At least, we infer so, from the reply which Mr. Reid made to a gentleman inquiring what was the nature of the arrangement, and what would be its effect on the "People's Line" and its stockholders? Mr. R.'s reply was simply that the matter was a mere business arrangement, and "did not effect the *legal rights*" of any one concerned. Of course, it could not directly destroy their "legal rights;" and we trust that, on the contrary, it will prove advantageous. We will give full particulars, as soon as they can be obtained, showing the action of the "People's Line," and other Lines embraced in this arrangement—and we particularize the People's Line, (between Louisvile and New-Orleans,) because inquiry is more frequently made of us concerning it.

In connection with this subject, we refer to the advertisement of Mr. Reid, as Superintendent of the Lines thus associated—in which allusion is made to the improved organization and changed name of the Lines. (See last page.)

Several Propositions for constructing Telegraphs to the Pacific.

I. IN our first number, we published Henry O'Rielly's memorial to Congress, asking the right of way across the public domain for the purpose of establishing telegraphic communication between the Atlantic and Pacific States.

Mr. O'Rielly's plan was matured several years ago, and has been widely published and generally endorsed by the public press, as well as by individuals competent to judge of the difficulties which would necessarily be encountered in such an undertaking.

Mr. O'R. proposes that Government should establish military stockades of from fifteen to twenty-five mounted men, at distances of from twenty to thirty miles apart, from the western settlements on this side the Rocky Mountains, to the Pacific frontier.

This much, he demonstrates, is absolutely required for the protection of the large number of emigrants who yearly cross the Plains; encountering now the greatest hardships and dangers, for lack of the protection above referred to.

When these military posts are established, Mr. O'R. and his associates will guarantee the construction of a Telegraph, along the route so protected, within one year after the distribution of troops through the stockades, and also to establish mail communication between the Atlantic and Pacific States in twelve days.

It is proper to add, that his memorial, which was presented by Senator Douglas, and on which is founded a bill that is now before the Senate, asks nothing exclusive, but leaves, if it should be granted, Government free to contract with whoever offer most advantageous terms.

II. Messrs. Alden and Eddy's project differs from the one to which we have referred. They ask Government to give *them* 1,500,000 acres of land, they guaranteeing to lay down a subterranean wire between St. Louis and San Francisco, within a certain period, having stations one hundred miles apart. Their proposition has just been published.

About the vast importance of telegraphic communication with California, there can hardly be two opinions; but there are many difficulties in the way to be overcome. Unless there be abundant protection—a vigilant patrol, who shall pass over the line very frequently, and thus insure its safety against both red and white marauders, it were as wise to talk of building a line to the moon.

We do not see that Messrs. Alden and Eddy propose any adequate means for the security of the wire they propose to lay down. True, they intend putting it in the ground, but in a way in which, in our opinion, it will not be as secure as if on posts.

It is no doubt the fact, that a wire *might*, in a heavy *iron or even wooden pipe*, *perfectly insulated* and deeply buried, be more safe under the surface than above it. But all this could only be done at an *enormous* cost—a cost which we presume Messrs. A. and E. do not at all contemplate incurring. But a wire laid down in any other way would be more liable to malicious injury, and as liable to accident, as it would on strong substantial posts. Suppose some evil-disposed red or white skin should sever the underground wire 42½ miles from any operating station, and two and a half miles from the testing station. Any Telegrapher will see that the injury would be discovered only by a slow process of approximation; and when discovered, it would not by any means be more easily repaired than would a broken wire on posts.

The article below was published in several New-York daily papers, and was evidently contributed by a *friend* of the project, and intended to be, at least, a fair statement of the proposition of Messrs. A. and E. We presume it does them justice; and if such be the case, the projectors of this "vast enterprise" have certainly projected nothing new, nor any thing that seems in any way to be an improvement on what has long since been suggested by others.

We trust that Congress will pass no bill giving any person or persons, party or parties, any *peculiar* privileges in this matter. If our law-makers will but pass a bill for the *protection of emigrants* between the Mississippi and Pacific, we will soon see a safe highway, along which private enterprise will soon establish telegraphic communication—much sooner than Government bounties will bring about that consummation so devoutly to be wished. It is all very well for Government to make liberal donations for important improvements that cannot be secured without; but whenever the desired object can be obtained without depletion to the National Treasury, donations smell of corruption.

We have the pleasure of an acquaintance with Mr. Eddy, and know him to be a gentleman of intelligence, energy and integrity; and shall always be most happy to chronicle his success in extending the enterprise in which he has been so long engaged.

TELEGRAPH TO THE PACIFIC.

Communication.—To the Editor of the Herald.

A MEMORIAL was presented to Congress on Wednesday, asking for a grant of 1,500,000 acres of land, to be located along the line of a telegraph, which the memorialists propose to build petween St. Louis and San Francisco, by the way of Salt Lake City. We have seen the plan and estimates of the above project, and are acquainted with the individuals who are engaged in the enterprise, as well as with their means, and feel convinced that not only is the plan perfectly feasible, and the best that could be devised, but also that the projectors have the adequate funds, and are the very men to put it through. The projectors contemplate the construction of a subterranean line, with testing tubes every five, and working stations every one hundred miles, throughout the route. The distance from St. Louis to San Francisco, by the way of Salt Lake City, being about 2,400 miles, there will consequently be twenty-four of these stations on the route, each settled by several families, furnishing a nucleus for so many towns at no distant day, and serving, from the first day of their occupation, as halting places for the innumerable caravans of emigrants that are constantly traversing the great prairies of the West between St. Louis and the shores of the Pacific. The advantages of the undertaking, even from this point of view, can hardly be over-estimated. But it will also open to the market an almost unlimited amount of land along the line of the proposed grant, which is now lying waste and trodden only by the foot of the Indian in the pursuit of game, or the hoof of the wild buffalo, and thus be the means of adding a large sum to the revenues of the country. The memorialists propose to give to the Government, in return for the grant, the right, for ever, to transmit, free of charge, over their line, all official dispatches and communications, with a preference over all others; and they stipulate, in addition, that if they or their assigns shall, at any time after the line is opened, cease to operate it for the space of six months, said line, with all its appurtenances, shall be forfeited to the Government.

The projectors of this vast enterprise ask for no money, but simply for a grant of land—land which at present is worth nothing, and probably will not be for a century to come, except through the agency of this, or of some similar undertaking. And this boon is asked for on conditions and stipulations that make it not only safe to grant it, but, in view of all the accruing immediate and prospective advantages, absolutely a profitable investment for Government. Among these advantages, that of having at all times, but especially in case of war, a channel of instantaneous communication between the Atlantic seaboard and the shores of the Pacific, are too obvious to need an argument, and its importance is too great to be measured by the value of a few acres of worthless land. To the merchant and business man—to every one who has business or friends in California or Oregon, its importance will be equally obvious. The mode of construction of the proposed line will give to it a permanency, a comparative exemption from interruption, and an efficiency, at all times, and in all weathers, that can be attained in no other way. The men who are ready to build it, and risk their money on its success, are no theorists, but practical men, who are already engaged in the telegraph business, and thoroughly acquainted with its operations, as well as its pecuniary affairs; and, having counted the cost carefully and closely, they are willing to risk their own fortunes and reputations on the result. It is hoped that Congress will look favorably on the petition of the memorialists, Messrs. H. O. Alden and James Eddy, and, if consistent with their duty, grant the prayer of their memorial.

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Another Pacific Telegraph.

We observe that an association of gentlemen (being principally composed of New-York politicians) propose building both a Telegraph and a Railroad to the Pacific. They are now seeking special favors in Albany and Washington. We trust that any special privileges granted to these mammoth companies, either by our State or National Legislatures, will be carefully guarded, so as to prevent abuse or the oppression of other persons and interests equally entitled to Governmental consideration.

Any favors extended by the Federal or State Legislatures, to *any* Atlantic or Pacific Railroad Companies, should be accompanied by requirements that *right of way* should be granted by such Railroad Companies to any and all persons who choose to construct Telegraph Lines—just as "right of way" is granted in various States to all Telegraphers along the public highways.

On this subject, we refer to a Memorial which Mr. O'Rielly has just presented to the New-York Legislature—a copy of which is hereto annexed.

ATLANTIC AND PACIFIC TELEGRAPH.

Memorial against Telegraph Monopolies.

Praying that the Atlantic and Pacific Railroad Charter be amended, so as to secure the same *right of way* for all Telegraphers, which New-York and other States have freely granted within their own borders; so as to prevent monopoly and correct other abuses, by encouraging salutary competition in Telegraphing.

The Memorial of Henry O'Rielly, Constructor of the Atlantic, Lake and Mississippi Telegraph Lines, respectfully showeth:

That he has constructed a large portion of the Telegraph Lines connecting nearly all sections of the United States, and is ready, with his associates, to extend the telegraph system across the Continent, so as to unite the Atlantic and Pacific States by instantaneous correspondence, within twelve months from the time when the Federal Government distributes a few troops, in stockades twenty miles apart, along the route, to render it safe for travellers and settlers, across the public domain between the eastern and western shores of our own country, as set forth in the Memorial on which is founded a bill now before Congress:

That neither himself nor his associates have ever asked any special favors from the State or Federal Governments, in connection with the Telegraph enterprise, and that they ask no special favors now:

That they ask only for the enactment of general laws or provisions, authorizing any person or persons to construct Telegraph lines, whenever and wherever public necessity and private enterprise combine in designating proper routes for establishing such lines:

And that they therefore respectfully request, that any privileges or donations which may be granted to any Atlantic and Pacific Railroad Company, (in the form of special charters from States, and land donations or money payments from Congress,) shall be accompanied by requirements that said Railroad Company shall allow *free right of way* for the establishment of Telegraph lines along the route, in the same liberal spirit which formerly induced the Legislature of New-York and other States (on the memorial of your petitioner) to grant *free right of way* to any and all persons or companies, who choose to employ their energy and capital in constructing Telegraph lines along the public highways, wherever and whenever the public interest requires the establishment of such lines.

HENRY O'RIELLY.

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Australia, and the Establishment of Telegraph Lines in that Region.

Samuel McGowan, Esq., long and creditably connected (as chief telegrapher in New-York) with the New-York, Albany and Buffalo Line, sailed for Australia about the 1st January. Mr. McG. proposes to establish telegraph lines in that far-distant and auriferous land, and to that end took out with him several of Norton's superior Morse instruments, as well as all other material requisite to harness the electric fluid to the car of intelligence. Few men have had better opportunities to become thoroughly acquainted with the whole art and mystery of telegraphing, and few, if the general opinion of those competent to judge be correct, have more benefited by such opportunities; and while we regret to have to record his resignation of an important position here, to which he did honor, we can safely predict that, whoever may now be or shall hereafter become interested with him in his Australian enterprise, will find him a person of strict integrity and competent to carry out whatever he undertakes.

ORIGIN & PROGRESS OF ELECTRIC TELEGRAPHS:

DISCOVERIES, INVENTIONS, CLAIMS, PATENTS, &c.

APPENDIX TO THE
AMERICAN TELEGRAPH MAGAZINE,
For JANUARY, 1853.—DONALD MANN, Editor, New-York.

FIRST TELEGRAPH CASE BEFORE U. S. SUPREME COURT.

HENRY O'RIELLY AND OTHERS, APPELLANTS, *versus* S. F. B. MORSE AND OTHERS, APPELLEES.

ARGUMENT OF R. H. GILLET,

ON THE APPEAL OF O'RIELLY FROM THE DECISION OF JUDGE MONROE IN KENTUCKY.

THIS case, which originated in the Circuit Court, in Kentucky, in 1848 9, was argued in December, 1852, before the Supreme Court, now in session in Washington. The hope of receiving the Decision, so as to present it fully to our readers at the earliest practicable moment, has delayed the issue of this number of the Telegraph Magazine; but the publication of that decree, not yet made, must be reserved for a subsequent issue.

In the absence of the Decision, we now commence the publication of the arguments submitted to the Court; and will, as rapidly as practicable, publish reports of the speeches of counsel on both sides, in the most authentic form.

General R. H. Gillet, formerly Solicitor of the Treasury Department, opened the case before the Court; and an outline of his remarks is herewith given as the commencement of the argument—the remarks of other counsel, on both sides, to be given hereafter, in the order of delivery.

The intrinsic importance of this great Telegraph case, which has encited such deep interest throughout the length and breadth of the land—a case important not only as it concerns Telegraph Patents, but as it affects other important Patents and Claims, to the value of many millions of dollars—renders a report of the whole case peculiarly important. The fact that this is the first case in which the long-contested lightning warfare has been brought in review before the United States Supreme Court, combined with the eminence of counsel employed on both sides, will aid in securing for the arguments an earnest examination and careful preservation on the part of all persons who desire to understand the various essential subjects involved in this extraordinary controversy. In the collection and preservation of all such important matters, we aim to render the American Telegraph Magazine valuable as a ready and permanent reference on all subjects connected with the history of Telegraphing throughout the United States and the world at large. In this case particularly, the extended research which characterizes the labors of both parties has brought together an amount of information upon the subjects discussed more thorough and valuable than was ever before presented within such brief compass.

The counsel for Prof. Morse and his associates were Mr. Gifford of New-York, and Messrs. Harding and Campbell of Philadelphia.

Senator Chase, of Ohio, concluded the argument which Gen. Gillet commenced, on behalf of the appellants, (O'Rielly and others.)

A few words of explanation seem proper here—to the effect that the Kentucky Decision arose on the effort of O'Rielly to use a new invention made by Zook & Barnes, which he called the "Columbian Telegraph," on the lines which he constructed *southward* of the Ohio, between Louisville and the Gulf of Mexico. *Northward* of the Ohio, on the "Atlantic, Lake and Mississippi Lines," which he constructed and organized, no decision ever was adverse to him ; as his contract (of 1845) with Morse gave him the right to use Morse's instruments on all lines wherever he has used them north of the Ohio—O'R. having for the last seven years reserved in trust, on all the lines thus constructed in this latter region, one fourth of all the stock, and all the dividends on that stock, to enable him to fulfil his contract with the Morse Patentees, whenever they fulfil on their part—a fund of such magnitude as was probably never before reserved by any individual for the purpose of meeting the claims of any inventor or patentee.

OPENING OF THE CASE ON BEHALF OF THE APPELLANTS.

Sketch of Gen. Gillet's Argument in the O'Rielly and Morse Telegraph Case, before the Supreme Court, December 24th and 27th, 1852.

This cause come shere from the Kentucky Circuit, and involves two questions: the validity of Professor Morse's patents, and the identity of his inventions with Barnes and Zook's Columbian Telegraph, used by O'Rielly. I shall not attempt a history of the rise, progress, and perfection of telegraphic inventions, because it would not, more than the exhibition and lecture proposed on the other side, be found in the record, or aid in determining the legal questions in the case. I shall not controvert Morse's merit as an inventor, while I claim that another useful, and in some respects superior, improvement has been made, which O'Rielly used. But justice requires me to state, that without the great development of electro-magnetic power, discovered by Professor Henry of this city, Morse's invention of applying that power would never have been made. I must also add, but for the skill and perseverance of a most valuable class of men, the telegraphic operators, I fully believe Morse's telegraph would never have been so perfected, and made practically useful. If they have not patents to commemorate the products of their genius and industry, or to enrich themselves, they are none the less meritorious. Their services to mankind are not lessened because their inventions are now embodied in Morse's re-issued patents, swelling his reputation, and increasing his wealth.

I shall not compare Dr. Jackson's and Morse's claims to the invention in 1832, because nothing was then so perfected as to be patentable. Nor is there evidence in this case to show that Morse completed his invention prior to April 8th, 1838. On the 6th of the previous October he filed a caveat, to entitle him to notice if another should apply within a year, upon the alleged ground, "that the machinery for a full practical display of his new invention is not yet completed, and he therefore prays protection of his right until he shall have matured the machinery." Surely, when he had not matured machinery to display his invention, it was not in a condition to be patentable. Hence I shall disregard the speculations of 1832.

This suit is brought on Morse's patent of 1840, re-issued in 1846, and again in 1848, and on his patent of 1846, re-issued in 1848. The bill is clearly multifarious, for including two patents, thereby complicating the trial; but we did not raise that objection in our pleadings, and cannot now do so here, though the Court has the power to interpose it, on its own account. Morse charges O'Rielly with having constructed and used a telegraph in Kentucky, in violation of his (Morse's) patents, by recording signs and making sounds. O'Rielly denies the infringement, and alleges that his (Morse's) patents are invalid for various causes, enumerated in his answer. A preliminary injunction was granted. Subsequently messages were sent and recorded in Tennessee, and the answers were gathered in Kentucky, by listening to and interpreting the click made by armature when striking against the magnet. For this acoustic offence the operator was arraigned for a contempt of court. Afterwards O'Rielly's transmitting station was removed from Louisville to Jeffersonville, in Indiana, and messages were sent and received over the wires, which extended across Kentucky. These harmless pulsations of the galvanic current, passing between Indiana and Tennessee, were also deemed a contempt. To prevent future violations of law, and further disrespect of judicial proceedings, the Court, by its mandate, directed the Marshal of Kentucky to take possession of the line, and to cut the wires. The Marshal obeyed, and the guillotine was applied to the sinning wires. After the execution, the galvanic lightning ceased its sinful contempts, and judicial dignity was permitted to repose in the enjoyment of all the respect to which its action was entitled. This feat, probably, has not its parallel in the history of judicial proceedings. Decapitating the wicked to prevent their committing of sin would not go far beyond it. While I say this, I am bound to say, that the Judge whose acts I am criticising is a learned, pure, and honest man. Nine months after the execution of the wires, on giving good bail, the lightning current was so far forgiven its offences, and allowed to flash across Kentucky without fear of the Marshal.

The final decree declared Morse's patents valid, and a perpetual injunction during their lives was ordered. O'Rielly's telegraph was declared to be an infringement, and he was forbidden to use it or one like it, "in the transmission of intelligence, which is in one place, to another distant place, by making thereat a permanent record," or "by making thereat, with the action of the instrument, which would make such characters, *alphabetical sounds*, and out of them, composing such characters." Although alphabetical sounds are not named in Morse's patents, nor a mode of making or using any sounds, except to sound an alarm bell, as Wheatstone had previously done, still, as the operator had heard sounds, and had contrived to interpret them, Morse's monopoly would not be perfect, unless he monopolized sounds, as well as electro-magnetic power. Hence the Court, being misled, was induced to restrain O'Rielly from doing what was not, in any manner whatever, covered by Morse's original patents, or in either of their frequent and mysterious expansions. There being no apology in the patents for this part of the decree, it cannot stand. I leave this point, and go to the other great questions.

The telegraph now used by Morse, and included in his patents, consists of the following things:

1. *A galvanic battery*, consisting of a zinc and copper plate united by a wire, placed in a cup of nitric acid. That principally used is Groves' battery, invented in 1839. Others had been long known.

2. *Metallic conductors* of copper or iron wire, connected, the one to the zinc and the other to the copper plate of the battery, insulated on posts in the air. The use of the wires is an old invention. Steinheil used posts in 1837. In 1843 Morse buried his wire in pipes in the ground, but on advice by Professor Henry and others, resorted to the posts.

3. *The ground circuit.* The opposite poles of a battery, here and at Baltimore, are connected by wires to zinc plates in the ground at both places, and with the wires on the poles in the air, and thus a circuit is formed, the earth making a part. This use of the earth was discovered and used by Steinheil in Bavaria in 1837. Morse commenced by using two wires to make the circuit, and subsequently used the earth. The electric current will not flow from one pole of a battery, until means are provided for its return to the other.

4. *A finger key.* This was used by Ampère in 1820. Morse at first used saw-teeth type, a port rule, a forked wire and cup of mercury to plunge it in, to accomplish the object attained by Ampère in the use of the finger key, which is more simple and convenient.

5. *The electro-magnet*, which attracts a bar of iron. Sturgeon, in England, contrived, in 1825, what was called an electro-magnet. In 1829 Professor Henry invented the powerful and practically useful electro-magnet, now used. It consists of numerous coils of small isolated wire, wound around a bar of soft iron in the form of a horse-shoe. When the galvanic current flows from a battery, it collects in these coils, and the iron bar becomes highly magnetic, and attracts soft iron within its influence. Without this embodier of the current, a sufficient quantity of galvanism could not be transmitted, to become effective by attraction. It is the attractive properties of this electro-magnet when near iron, which constitute the electro-magnetic power used by telegraphers. Morse did not first discover this power. Henry perfected the mode of using it, and rendered it available, for which the world owes a debt not easily cancelled. His only reward is the exalted reputation it confers.

This power and the means of creating it were public property before Morse's invention. He applied the former to telegraphing by adding,

6. *A recording apparatus.* This consists in so shaping the bar of soft iron, (called an armature,) which is attracted by the electro-magnet, that when it moves toward the electro-magnet, one end, having a point in it, is made to come in contact with a fillet of paper moved by clock-work. When the galvanic circuit is closed by pressing down the finger key, the current collects in the electro-magnet, and attracts the bar of soft iron, or armature, which raises the end containing the point with such force as to indent the paper. When the circuit is broken, the galvanic current vanishes from the electro-magnet, and the latter no longer attracts the iron bar, or armature, and the paper moves on without being indented. The frequency and length of these indentations depends upon the length of time the circuit is opened and closed. These indentations are variously combined, and thus form an alphabet, which operators soon learn. Morse's invention consists solely in this recording apparatus, and arranging it in connection with the circuits. More than that he did not invent. Every thing up to that point was perfect and public property, to be used by those who chose, before his invention. The opening and closing one circuit by another, though patented by Morse, was indisputably invented by Professor Henry years before, and used by Wheatstone before Morse filed his caveat. Not content with the great merit to which this invention entitled him, the American press has teemed with articles, prepared by him or his friends, and thereby the public has been erroneously led to believe that he invented the whole telegraphic apparatus. A false public opinion has been created, which time and judicial inquiry will hereafter correct. History will record, that the telegraph has been produced by the agency of numerous individuals, and that Morse's share in it is not greater than Steinheil's or Henry's. If equal to either, it should satisfy the ambition of even an ambitious man. But Morse's claims are almost unbounded, and centre in the desire of a rich harvest from his patents. Although he did not first discover the motive power of electro-magnetism, he claims its exclusive use, when applied *to make a telegraphic record, or to produce sounds;* that is, he claims all possible modes, when he only invented one mode of applying it. If the law is as he

claims it to be, if I invent a mode unknown to him, and infinitely better than his, and use the power of electro-magnetism, which he did not discover, he can use my invention at his pleasure, and can sue and recover against me if I use my own invention. This would be a palpable infringement of the Constitution, which authorizes laws granting the exclusive use by an inventor of his own, and not of another man's, invention. To allow him to recover against me for using my own invention, would be an outrage upon the law, upon common sense, and upon justice itself. It will require more than the power and authority of our own pure and venerated judiciary to secure the acquiescence of the American people in such an extraordinary conclusion. A claim to the exclusive use of air, fire, water, and steam, to produce a particular result, would have the same foundation.

Morse's patent, as first issued in 1840, only claimed a certain mode of applying the power of galvanism, or electro-magnetism, and did not claim its exclusive use. In the second re-issue of this patent, a few months after his agents and friends had seen permanent magnetism used in the O'Rielly instrument, he was allowed to claim the exclusive use of "*the motive power of magnetism.*" Morse's instrument can only be worked by electro-magnetism. The Columbian is operated by the employment of two permanent magnets as the motive power. Electro-magnetism is not used in it as a motive power at all, but simply to change the polarity of an iron bar, so as to release or subject it to the power of the permanent magnets. These are not as much affected by atmospheric electricity as the electro-magnet. The testimony shows the instruments to be substantially different; and not a witness swears that the Columbian is an infringement, unless he did so under the belief, that to use magnetism as a motive power, was a violation of Morse's patent. This is either expressly stated, or inferable from the testimony of Morse's witnesses. Those called by O'Rielly clearly show that the two inventions are not alike. We confidently assert that there has been no infringement, because the inventions are unlike in form and structure, and in the power used, and in the mode of its application, and that O'Rielly has used nothing that Morse in fact invented. Before this Court can hold that O'Rielly infringed, it must determine that Morse is entitled to the exclusive use of permanent, as well as electro-magnetism, although differently produced and applied. He has shown no mode of using it, and it cannot be used by any machinery or combination invented by him. It will require more inventive genius than Morse has ever manifested, to produce substantial reasons for determining that these inventions are substantially the same.

I now proceed to other questions.

First. Morse's patent of 1840 is void, because it runs fourteen years from the date of its issue, instead of that length of time from the date of his patent granted in France in 1838, for the same invention.

The seventh section of the act of 1836 prohibits the issue of a patent where one has been previously granted for the same thing. The eighth section modifies this in favor of the true inventor, if within six months after obtaining letters abroad, he files his specifications and drawings here. The sixth section of the act of 1839 suspends so much of the seventh section of the act of 1836 as relates to patents obtained abroad, with the proviso, "that in *all* cases, every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters patent." The object of this section was to limit patents to fourteen years from the time the inventor first patents the invention, either here or abroad. Under the act of 1836, a patent could run only fourteen years from the time of patenting here, which must have been within six months from the date of the foreign patent. The public would then have had the right to use the invention at the expiration of fourteen years and six months from the date of the foreign patent. Under the construction claimed by Morse, he would be entitled to fourteen years here, though he had had it fourteen abroad, and it had become public property there. This would place us fourteen years behind foreign nations in the right to use a patented invention. Morse claims that the act of 1839 does not reach his case, because he had applied for a patent before it was passed. We deny that his application was a valid one, within the meaning of the law, until he perfected it in 1840. From 1838 it was imperfect, and not conformable to law, and remained unacted upon at his written request, and was therefore no legal application. But if it was, the act makes no exceptions in favor of such a case or any other one. His was as much within the mischief intended to be corrected, as any case; and the remedy must apply. For this cause, we say this patent is invalid.

Second. In construing patents, and in deciding what the inventions are, that are embraced in the patent, the summing up is conclusive, and nothing is patented which is not expressly claimed.

This doctrine is settled in England. In Rex *vs.* Cutler, 1 Starkie R. 354; Bovil *vs.* Moore, 2 Marsh R. 211, this rule was laid down. The elementary authors are to the same effect. Judge Story, in Moody *vs.* Fiske, 2 Mason 112–118, lays down the same rule. In Wyeth *vs.* Stone, 1 Story R. p. 285, he says: "In order to ascertain the true construction of the specification in this respect, we must look to the summing up of the invention, and the claim therefor asserted in the specification; for it is the duty of the patentee to sum up his invention in clear and determinate terms. This was the doctrine maintained in Moody *vs.* Fiske, 2 Mason 112, and I see no reason to doubt or depart from it." In Hovey *vs.* Bemis, 3 Woodbury and Minot 17, this doctrine is fully confirmed. The sixth section of the act of 1836 provides: "And he shall particularly specify and point out the part, improvement, or combination which he claims as his own invention, or discovery." This being a statutory requirement, Morse is bound by his acts under it. Settling this position will enable me hereafter to show what Morse has legally included in his several patents.

Third. Whatever is described in Morse's patents and not claimed in the summing up, whether invented by him or not, is abandoned or dedicated to the public, and cannot be afterwards claimed, as a part of his patent in the re-issue, or otherwise.

This proposition is in part the same as the last, but it also declares the effect, or consequence, of describing what is not claimed. The object of the statute in requiring the patentee to specify and point out what he claims, was to protect the patentee against the hazard of being misunderstood as to his invention; and also to enable the public to ascertain what could be lawfully used, and what was prohibited. The printed brief shows the numerous changes that Morse's patents have undergone; and the things described in the first issues and not claimed, but are afterwards included. The alphabet is a specimen. It is claimed in the last, but not in the first patent. Also the exclusive use of electro-magnetism and magnetism. It is as much described in 1840, as in the re-issue of 1848, but it is not claimed in the former. So of numerous things which can only be seen and understood by closely scrutinizing and comparing the original patents with the re-issues.

Morse insists upon the right to claim all that he described, but omitted in the summing up of the original patent. We say that he is concluded by his acts, and that his intentions in relation to these matters, about which we can know nothing, have no bearing upon the case. The public can observe his acts and draw their inferences, and ought not to be prejudiced by his blunders, intentions, or change of purpose. In Battin *vs.* Taggart, Judge Kane held, "that a description by the applicant for a patent of a machine, or a part of a machine, in his specification, unaccompanied by notice that he has rights in it, as an inventor, or that he desires to secure title to it as patentee, is a dedication of it to the public." "Neither of these sections authorizes a change in the character of the claim, the substitution of a different patentable subject. The defect to be remedied is, either some insufficiency of description, or an error in claiming too much."

The case of *Battin* vs. *Taggart* was decided the same term at which that of *French* vs. *Rogers* was argued. If Judge Kane had applied in the latter case the same rule which I have before quoted from his decision in the former, Morse's re-issued patents must have been declared void.

In Grant *vs.* Raymond, 6 Peters 248, this Court, quoting from Pennock *vs.* Dialogue, 2 Peters 1, says, "It is possible that the inventor may not have intended to give the benefit of his discovery to the public." "But it is not a question of intention," "but of legal inference, resulting from the conduct of the inventor, and affecting the interests of the public." This is reiterated in the opinion delivered in Shaw *vs.* Cooper, 7 Peters 318, where this Court again quotes from Pennock *vs.* Dialogue, and say, "It has not been, and indeed cannot be denied, that an inventor may abandon his invention and surrender or dedicate it to the public. This inchoate right, thus gone, cannot afterwards be resumed at his pleasure; for when gifts are once made to the public in this way, they become absolute."

These cases settle the question in our favor. By not claiming the things referred to, Morse dedicated them to the public use, and when once gone they cannot be recalled. Justice requires this should be so. Before including things in the claim in his patent, it was lawful for any one to use them, and millions might have been invested for that purpose. It would be wrong to allow him, by his own acts, to change these lawful investments into unlawful ones. Public policy, as well as private right, requires that he should be bound by his acts. If this doctrine is applied to Morse's patents, they must fall, for including in the re-issues what belonged to the public when claimed.

Fourth. A patent void in part is void in whole, except when otherwise provided by statute.

A patent is an entirety, and if void in one part it must be wholly so. This was so at common law, and is so by statute. There are numerous defects which will defeat a patent. A disclaimer properly made and recorded will remedy a class of defects in certain cases. But here there has been no disclaimer. If the patent includes what was not lawfully patentable, it vitiates it. In Wyeth *vs.* Stone, 1 Story R. 285, in Moody *vs.* Fiske, 2 Mason 118, and in Woodcock *vs.* Parker, 1 Gall 437, Judge Story held, if the claim was too broad the patent was void. In Bovil *vs.* Moore, Ch. J. Gibbs held the same. In Evans *vs.* Eaton, 7 Wheat. 356, this Court said, "If therefore the patent be for the whole machine, the party can maintain title to it only by establishing that it is substantially new in its structure and mode of operation."

The suggestion that Morse may disclaim within a reasonable time, which had not elapsed when this suit was brought, is easily answered. We have, by statute, a right to take issue upon that question, but as he had not disclaimed, we have had no opportunity to do so. This Court cannot know that Morse will ever disclaim. It is certain he will not, if he can succeed here without doing so. In Wyeth *vs.* Stone, Judge Story held, "If the Court should grant a perpetual injunction before any disclaimer is filed, it may be that the patentee may never afterwards, within a reasonable time, file any disclaimer, although the act certainly contemplates the neglect or delay to do so to be a good defence upon a patent to secure the rights granted thereby." As Morse now has in his patents what he could not lawfully claim, they must be bad. He has claimed some things that were public property, and others, like the alphabet, which are not patentable, as well as the exclusive right to use the motive power of electro-magnetism to print letters, when he has shown no mode by which the printing can be done. For these causes, these patents, and especially that of 1840, must be declared invalid.

Fifth. An invention is not complete, so as to be patentable, or to bar the obtaining a patent by another inventor, until it is perfected and adapted to use.

The time when Morse's invention became patentable is highly important, with reference to the question whether he was the first inventor, as well as with regard to whether his invention had been patented or described before his application. Before we can fix the time of its being patentable, we must ascertain when the law deems things sufficiently perfected. As the patent must be for the machine or product, and not for the conception or idea, no patent can be granted until such machine or product is completed so as to be described in a specification, and represented in a model and drawings. I have shown that Morse had not, when he filed his caveat in October, 1837, so far completed his machine as to enable him to do either. He then had no completed machine. And there is no evidence in this case of his making any further progress, until it is shown in his application in April, 1838, which is the true date of the invention. Prior thereto he had nothing that was in a condition to be patented. In Reed *vs.* Cutter, 1 Story 590, Judge Story lays down the true rule in these words: "He is the first inventor in the sense of the act, and entitled to a patent for his invention, who has first perfected and adapted the same to use; and until the invention is so perfected and adapted to use, it is not patentable. An imperfect and incomplete invention, resting in mere theory, or in intellectual notion, or in uncertain experiments, and not reduced to practice, and embodied in some distinct machinery, apparatus, manufacture, or composition of matter, is not, and indeed cannot be, patentable under the patent acts." The same doctrine is laid down in Washburn *vs.* Gould, 3 Story R. 133, and in Allen *vs.* Blunt, 2 Wood and Min. 121–141. Morse's invention not being in a condition to be patented before April, 1838, it is perfectly certain that he was preceded by Steinheil and by Wheatstone. The former brought his invention into practical use on a line still existing between Munich and Bogenhausen, in Bavaria, in 1837, where he recorded by ink or pencil, as Morse did afterwards. And Professor Henry distinctly swears that in April, 1837, he saw Wheatstone's apparatus, with the contrivance of bringing into operation a second circuit by means of the first, by the power of electro-magnetism. This places it beyond all doubt that Steinheil and Wheatstone had perfected their inventions before Morse did his. This being so, Morse was not, either in fact or in contemplation of law, the first inventor of what he claims. He was preceded in England and in Bavaria.

Morse, in his patents themselves, admits that others had preceded him in the invention of telegraphs, whose motive power was electro-magnetism. But he claims that his was the first recording telegraph. From the galvanic battery to the electro-magnet, attracting a bar of iron, turning upon a pivot, or moving on its axis, including wires and the means of opening and closing the circuit, and the electro-magnet itself, which is the all-important and vital thing, Morse has admitted in the historic parts of one of his patents, existed previously, and it has been proved in this case, that up to that point, the combination was old and in use before his invention. So much of the recording apparatus as consists of weights and clock-work is also proved to be old. Notwithstanding all this, he has claimed the whole of these combinations in his patent of 1840. His second claim is for the "employment of the machinery called the register or recording instrument," most of which is an old combination. In his third claim he says, "I also claim as my invention and improvement the combination of the machinery herein described, consisting of the generator of electricity, the circuit of conductors, the contrivance for breaking and closing the circuit, the electro-magnet, the pen or contrivance for marking, and the machinery for sustaining and moving the paper, all together constituting one apparatus, or telegraphic machine." This is one combined whole. By his own recitals in his patents, and by the undisputed testimony in this cause, this combination, from the generator of electricity to and including the electro-magnet and armature, existed, and was an old combination before Morse's invention. The pen, or the armature and machinery for moving the paper, were his only additions; yet he has claimed the whole, and a too confiding public has been led to believe he invented it. In his fourth claim he says, "I also claim as my invention or improvement, the combination of two or more galvanic, or electric circuits, with independent batteries," &c. This combination is proved, by Professor Henry, to have been invented by him, years ago, and he saw it in use by Wheatstone, in April, 1837. He has not the merit of making even an addition to it. Claiming a combination which he did not wholly invent, vitiates his patent. So, if he claimed a part which he did not invent. This Court, in Evans *vs.* Eaton, 7 Wheaton 356, said, "If his patent includes things before known, or before in use, as his invention, he is not entitled to recover, for his patent is broader than his invention. If therefore the patent be for the whole machine, the party can maintain title to it, only by establishing that it is substantially new, in its construction and mode of operation. If the same combination existed before, in machines of the same nature, up to a certain point, and the party's invention consists in adding some new machinery, or some improved mode of operation of the old, the patent should be limited to such improvement; for, if it includes the whole machinery, it includes more than his invention, and therefore cannot be supported." Unless this Court now overrules this solemn and well considered adjudication, it must hold this patent invalid for being broader than the invention. The defendants below used no such combination as is included in either of Morse's claims, as the proof clearly shows; and if they did not, they are not liable, even if Morse's patents are good. This point has been repeatedly held, by Justices Story and McLean, on their circuit. This Court, in Prouty *vs.* Ruggles, 16 Peters 336, declared, "The use of any two of these parts only, or of two combined with a third, which is substantially different in form, or manner of its arrangement and connection with the others, it is therefore not the thing patented. It is not the same combination if it substantially differs from it in any of its parts." That the Columbian differs from Morse's invention "in form or manner of its arrangement, and connection with other parts," is too clearly proved to be controverted. Hence Morse cannot recover for a violation of the combinations he has claimed. If he recovers at all, it must be because he is entitled to the exclusive use of magnetism as a motive power, the right to which I shall hereafter discuss.

Seventh. Morse's patents of 1846 and 1848 are void, because he was not the first inventor of the things patented, or of substantial and material parts thereof.

I have already shown that Morse's invention was subsequent to Steinheil and Wheatstone. The invention of the former included even the recording of signs, and the latter all that Morse uses, except he made intelligible signs by the electro-magnet attracting or deflecting a needle, instead of actually making a record upon paper. Morse answers these prior inventions, by alleging that he is the first American inventor, and as such, he is entitled to a patent, even if the invention had been previously made and used abroad. We say, that to sustain his patent, he must be the first inventor, as to all the world. In Pennock *vs.* Dialogue, 2 Peters 1, this Court said, "It (the 6th section of the act of 1793) gives the right to the first and true inventor, and to him only; and if known and used before his supposed discovery, he is not the first, although he may be a true inventor." This was in 1829, and in 1833, the case of Shaw *vs.* Cooper, 7 Peters 292, came up, and the same doctrine was reiterated. In this case there had been a use abroad, and this Court said, "If the invention was known or used by the public before it was patented, the patent is void." Judge Washington had held the same in four, and Judge Story in five cases. Judge Baldwin had held, "The invention must be new as to all the world." From 1804 to 1833 the decisions had been uniformly the same. The question now is, did the statute of 1836 change the law? We say it did not. The sixth section of the act of 1836 provides that a person who has made an invention which was "not *known* or *used* by *others*, before his" invention, may apply for a patent on making oath, "that he does verily believe that he is the original and *first* inventor." This is the old law, and was actually followed in procuring the patents now under consideration. The seventh provides, that if on examination it "shall not appear to the Commissioner that the same has been invented or discovered by any other person in this country prior to the alleged discovery thereof by the applicant, if he shall deem it sufficiently useful and important, it shall be his duty to issue a patent therefor." The section then provides, if "on such examination it shall appear to the Commissioner that the applicant was not the original and *first* inventor thereof, or that any part of that which is claimed as new has been invented or discovered in this, or a foreign country, as aforesaid," then he is not to issue one, and certain proceedings are to be had before a board. The last clause in this section, being clear and express, must control the first, if there is a conflict between them. This last clause, and the provision in the sixth section, are perfectly harmonious. The fifteenth section provides, if "the patentee was not the original and *first* inventor, or discoverer of the thing patented, or a substantial part thereof claimed as new," &c., "judgment shall be rendered for the defendant with costs." Morse contends that the proviso to this last section, which says that patent shall not be held to be void if he believed he was the first inventor when he applied, modifies and controls this provision. I answer, he has stated no such case in his bill; and if he had, such an issue could not be tried. No one can prove what he believed at that moment. It would be impolitic to give a construction which would involve such an unprovable matter as his belief. The rights of others do not depend upon any such inscrutable facts. Under the old law, a patent could be decreed to be void, and it was then cancelled. The proviso is applicable to such a case. But there is nothing in this act for it to apply to, or operate upon. The Court is no where clothed with power to declare a patent void for any defects appearing upon a trial for its infringement. Its authority is confined to giving the defendant a judgment with costs when he proves certain defences. It has no power to adjudicate the patent void, and that it be cancelled, or to do anything else with it. This proviso was inserted in the Senate, after the bill passed the House, as the records show, and has nothing whatever to act upon, and serves no purpose but to confuse this most loose and imperfect law to be found in our statute book, and one which, for the benefit of inventors and the good of the public, requires much amendment. I have high authority for my conclusions on the present point. Chancellor Kent, in his 2d volume of Commentaries, p. 568, (edition of 1848,) says: "If the patentee be not the first or original inventor, in reference to all the world, he is not entitled to a patent, even though he had no knowledge of the previous use, or previous description of the invention in any printed publication, for the law presumes he may have known it." In 1841 Judge Story, in Reed *vs.* Cutter, 1 Story R. 590, held, "Under the patent laws of the United States, the applicant for a patent must be the *first* as well as the original inventor." "It is sufficient that he is the first inventor to entitle him to a patent; and no subsequent inventor has a right to deprive him of the right to use his own invention. The language of the patent acts of 1836 and 1837, fully establishes this construction; and indeed this has been the habitual, if not invariable, interpretation of all our patent acts from the origin of our government. The language of the act of 1836, 'not known or used by others, before his or their discovery thereof,' has never been supposed to vary this construction." "In Pennock *vs.* Dialogue, (2 Pet. 1,) the Supreme Court expressly held, that the section of the patent act then in force (and on this point the law has undergone no alteration) gives the right to the true and first inventor, and to him only; if known and used by others before his discovery, he is not the first, though he may be a true inventor, and that is the case to which the clause looks." Judge Woodbury in 1846, in Allen *vs.* Blunt, 2 W. and M. 121, referring to the superior right of the first inventor, said: "There is no doubt it must prevail, as a matter of historical and chronological truth. It is in truth the first invention." If the law is as insisted by Morse, his oath to obtain his patents should have been, that he was the first inventor in this country, and his patent should have so stated the fact; but both oath and patent, in express words, conform to my construction. His bill should have conformed to his views. But his application, his oath, and his patent, the forms of the Patent Office, the words of the statute, and the adjudications as far as reported, are with me; and good common sense and sound policy are in harmony with them all. If Morse's position is correct, then if Steinheil should come here and use his invention, which was perfected and in actual use before Morse perfected his, he would be subject to a suit for using what his genius and learning produced and gave to the work. Wheatstone would be liable for using his combined circuits in this country, though actually patented by him in 1840, six years before Morse's application to patent them. Such a consequence shows the absurdity of Morse's pretensions. His patent is clearly bad.

Eighth. Morse's re-issued patents, dated June 13, 1848, are invalid, because he has not shown that the surrendered patents were inoperative, or invalid, for defective specification or otherwise, so as to confer jurisdiction on the Commissioner to make such re-issues. The surrendered patents being set out, disprove any such jurisdiction.

Morse has not alleged in his bill, that his patents were "invalid" or "inoperative," nor that the error, if any, was occasioned by "inadvertency," or "mistake," or "accident," or "without fraud or deceptive intent on his part." Nor is it so stated in the re-issued patents. The patents say the surrender was "on account of defective specification." This does not show jurisdiction, while the surrendered patents, which are in this case, cannot be shown in the language of the act to "be inoperative or invalid, by reason of a defective or insufficient description or specification." The jurisdiction does not attach until the old patent is shown to be inoperative or invalid. The jurisdiction being statutory must be clearly made out. It is not pretended by Morse that his old patents were invalid, or inoperative. But he alleges, that the action of the Commissioner is conclusive. Where mere discretion is involved, this is so; but never in cases where the jurisdiction is in controversy. For certain purposes it has been held, that the re-issued patent is unreviewable. This has never been held upon the question of jurisdiction. But in this case the recitals in the patents fall short of making out the semblance of jurisdiction. There is no more reason why the action of the Commissioner cannot be reviewed in this, than in case of the original issue. Certainly this power is equally liable to abuse as the other. I have never known a surrender and re-issue where it was not apparent that the real object was something besides curing defects in the specification. As far as I know, the patentee has uniformly enlarged the boundary of his claims, although there is no stronger reason for it than for permitting the purchaser of a farm to enlarge the limits of his grant.

But I have the authority of this Court itself to sustain me. In Shaw *vs.* Cooper, 7 Pet. 290, this Court said: "The same evidence which would defeat his application for a patent, would at any subsequent period be fatal to his right. The evidence he exhibits to the Department of State is not only *ex parte* but interested; and the questions of fact are left open to be controverted, by every one who shall think proper to contest the right under the patent." In Grant *vs.* Raymond, 6 Pet. 218, it said, "If he shows that the patentee has failed in any of these prerequisites, on which the authority to issue a patent is made to depend, his defence is complete." This case arose on a re-issued patent, and covers ours. The Court add, "The counsel for the plaintiff in error have shown very clearly, that the question of inadvertence or mistake is a judicial question, which cannot be decided by the Secretary of State. Neither can he decide those judicial questions on which the validity of the first patent depends. Yet he issues them without inquiring into them. Why may he not in like manner issue the second patent also?"

The correct performance of all those preliminaries on which the validity of the original patent depends, are always examinable in the court in which a suit for its violation shall be brought. Why may not those points on which the validity of the amended patent depends, be examined before the same tribunal? The rightfulness of issuing the new patent is declared [in the charge] to depend on the fact that the "defect in the specification arose from inadvertence or mistake, and without any fraud or misconduct on the part of the patentee." The jury of course were to inquire into the fact. The new patent was sustained because it stood this test. This case is like the one before us. The reasons assigned will equally apply, and will warrant this Court in reviewing the whole action of the Commissioner. On the question of jurisdiction, this Court has often expressed its opinion. In Walker *vs.* Turner, 9 Wheaton 541, this Court held that where the "jurisdiction is strictly special and limited," it was essential that "the record show that he had acted upon a case the law had submitted to him." In Wilson *vs.* Rosseau, 4 How. 646, this Court, speaking of the decision of the Commissioner in the case of an extension, said, "It is not conclusive upon the question of jurisdiction to act in a particular case." There are numerous cases to this point on the brief. I will only cite Lessee of Hickey *vs.* Stewart, 4 How. 750, where a former decision is approved and this rule established, "that the jurisdiction of any court exercising authority over a subject, may be inquired into, in every other court, when the proceedings are relied on, and brought before the latter by the party claiming the benefit of such proceeding."

These cases settle the question, that we may examine into the Commissioner's jurisdiction. Morse has failed to show the facts that conferred it, or any proof that he possessed it; but on the contrary, the only evidence upon the point in the case shows conclusively, that he had none. Not showing jurisdiction for these re-issues, these patents are invalid.

Ninth. Morse's patent of 1840, as secondly re-issued, is invalid, because the Commissioner had no authority to accept a second surrender and make a second re-issue.

These re-issues are the fountain-head of litigation, as well as the source of innumerable frauds. The presumption is, that the first re-issue cured all defects, if any really existed. There is no authority for a second re-issue, in the statute, which alone confers jurisdiction. Sound policy would prevent all re-issues, but as the statute provides for one, it should be confined to that. It is a well-settled rule of law, that when a special statute power has been exercised, it cannot form the basis of a second exertion of it. This was held in Demming *vs.* Smith, 3 John Chy. R. 332. Delafield *vs.* State of Illinois, 8 Paige 527, and 26 Wen. 192, proceeded upon the same ground. The 13th Petersdorf, 644, lays down the same rule. Lucas *vs.* Atty. Gen'l., 11 Gill and John 490, and in Phalen *vs.* State of Maryland, 12 Gill and John 18, this doctrine was expressly held in Maryland. The changes and expansions that these patents present, must awaken the attention of the Court, as well as the public, to the impolicy, as well as the illegality of these repeated re-issues. If I am right on this point, the patent of 1840, as secondly re-issued, is invalid.

Tenth. Morse's patent of 1840, as secondly re-issued, is invalid, because it is broader than the invention originally patented.

The fact that it is broader, is scarcely denied. That it is so, is proved beyond controversy, by the record. In his re-issued patent, the first claim is for the exclusive use of the power of magnetism, which was not in the original. It was not then patented, nor did he invent it. It was then a claim limited to the application and arrangement of electro-magnets, which was a combination. In his new patent the second claim includes the employment of machinery, called a register, which is made to embrace a "fly" and "spiral spring." In the original, it was for a combination of machinery described, which did not include them. In the new patent, the third claim is for a combination, which constitutes the whole telegraphic apparatus. This includes the "fly" and "spiral spring," and breaking and closing the circuit by metallic contact, by applying the hand. These things were not included in the original. In the old patent, he claimed the "combination of electro-magnets in one or more circuits of conductors with armatures of magnets." In the new, he claims the combination of two or more galvanic circuits, with independent batteries, &c. This is an enlargement. The fifth claim in the new patent is for the invention of a system of signs, consisting of dots and lines. There is no such claim in the original. In the sixth, a system of signs, combined with machinery generally, is claimed; while in the original, it was for their combination with the machinery then described, which was useless. This is an enlargement, because it extends to all machinery, whether described or invented by Morse or not. It was doubtless intended by Morse to cover the machinery of the Columbian and House's Printing Telegraph. It is a palpable enlargement, and includes what Morse did not invent. The seventh includes in the combination the signal lever, or its equivalent, which is not in the original. The eighth claim for the exclusive use of the motive power of the electric or galvanic current, which he calls electro-magnetism, is wholly an addition, and was not invented by Morse. These are only a portion of the enlargements. Morse claims that they were a part of his original invention, and that they were lawfully included, if not in the original at all. We deny that they were a part of his original invention, and there is no proof whatever that they were so. The Commissioner had no such question before him, and no means are provided for its trial if it had been. Having failed to prove it, either before him or in this cause, by a scintilla of evidence, he cannot derive any advantage from it. But we deny that he has a right to enlarge his patent. The thirteenth section of the act of 1836 provides for the "adding the description and specification of any new improvement of the original invention," which shall have been subsequently invented. Most of these enlargements were, as seems palpable, additions subsequently made, and come within the words and spirit of this provision. The new patent, by statute, must be "for the same invention," which was so defectively described as to make the patent invalid, or inoperative. This is the only invention which the section had mentioned. The object is stated to be, to make the defective description a good one, so that it will actually confer rights; but it makes no allusion to the idea that new matter can be introduced, or new claims inserted. The section has no such object. The words "same invention" clearly mean the same that had been patented, though not properly described. If it had been intended to allow new things to be described and claimed, it would have been stated. To give it such a construction now, we must interpolate the words "originally made," where the word "patented" is most clearly implied. When an inventor assigns a patent for a machine, for the residue of his term, it would be unjust, nay unlawful, for the assignee to surrender the old, and take a new patent for things not included in it. The inventor may have intended to reserve the things not described, or claimed for his own use in another patent or otherwise. By assigning the old patent he confers no right to any thing not claimed and attempted to be described. Suppose an inventor assigns his application, and the patent is issued to his grantee. He conveys only what he claims and specifies. If he invented more, it remains his. What right has the grantee to what is not mentioned in the contract of sale? He did not purchase it. His contract or assignment should be interpreted, like all others, by the intention of parties to it, as expressed in the writing. No greater error can be committed than to apply rules in relation to patents, and things connected with them, which are not applicable to other and common transactions. Without giving a forced and unnatural construction to the words "same invention," this Court cannot hold that new claims and descriptions can be included in a re-issued patent. If properly construed, then these new claims and newly described things have been wrongfully inserted, and the patent is bad.

Eleventh. Morse's patent of 1846 is void, because material parts of it were in public use, and had been patented and described in a printed publication, before his application.

The first claim in it is for the invention of connecting circuits, so that one brings another into use. This was invented by Professor Henry, and used by him, as he swears, years before Morse claims to have made the invention. He also swears, that he saw it in use by Wheatstone, in April, 1837. It was patented by Wheatstone in 1837, and appears in Davy's, in England, in 1838, and is also described in the London *Mechanic's Magazine* in 1838, and by Vail (one of the plaintiffs) in his book published in 1845. Morse himself had patented it in 1848, in the second re-issue of his patent of 1840. It is there in these words: "I claim as my invention the combination of two or more galvanic or electric circuits, with independent batteries, substantially by the means herein described, for the purpose of obviating the diminished force of electro-magnetism in long circuits, and enabling me to command sufficient power to put in motion registering or recording machinery at a distance."

In the patent of 1846 it is, "the employment in a main telegraphic circuit, of a device or contrivance, called the receiving magnet, in combination with a short local independent circuit, or circuits, each having a register and register magnet, or other magnetic contrivances, for registering and sustaining such a relation to the register magnet or other magnetic contrivances for registering, and to the length of the circuit of telegraph line, as will enable me to obtain, with the aid of the main galvanic battery and circuit, and the intervention of a local battery and circuit, such motive power for registering as could not be obtained otherwise, without the use of a much larger galvanic battery, if at all." This long and foggy sentence covers a contrivance for connecting circuits and obtaining more power, which is the same thing claimed in the patent of 1840. By referring to the two specifications, they describe the same things, as far as described at all. Thorough examination will show that they use the same means and have the same description, and are employed for the same purpose. The registering and receiving magnets are simply Henry's electro-magnet. Although it is pretended that the former has stops and a spiral spring for adjustment, still these things are not described by Morse, nor do they form a part of the receiving magnet, nor do they constitute a patentable invention. But if they were described, they actually appear in figure two, example eleven, of the second re-issue of his patent of 1840, now in the hands of the Court, and therefore could not have been covered by another patent. If the old patent does not include his first claim in the new, then it is perfectly certain that he did not invent it until many years after Henry did, and after Wheatstone and Davy described it in their patents, and used it publicly in England, and until after it had been described in a printed publication in London. It has been alleged that the contrivance in the patent of 1840, as secondly re-issued, would not transmit the galvanic current both ways, by the use of a single wire. It would not, nor can the present contrivances do so. At first, Morse did not know the ground could be used as a part of the circuit, and hence a return wire was needed and employed by him. But when he adopted this part of Steinheil's invention, the ground took the place of the second wire. But even now, the current cannot be transmitted both ways on the same wire, without changing the poles of the batteries. The current always goes in one direction. If Baltimore wishes to send to Washington, the current leaves one pole of the battery, proceeds to Washington, and comes back to the other pole of the battery—going in one direction through the wire, and in the other in the ground. If Washington sends to Baltimore, the current leaves the like pole of the Washington battery, proceeds to Baltimore, and comes back to the other battery at the place of starting. It is the same in communicating on to Philadelphia and New-York. The pretence that there has been a change in this respect, is all delusive. The only alteration by Morse, was the adoption of Steinheil's discovery of using the earth as a part of the circuit, without the grace of acknowledgment. But even this he does not describe and claim. This patent is invalid because of this long prior discovery, prior published description, and prior patenting, and prior use of the thing claimed.

Twelfth. Morse's re-issued patent of 1846 is invalid, because it is broader than the original.

This is the same question as the tenth proposition, being applied however to Morse's last patent. I shall therefore merely show the fact that it is broader. Morse, in his first claim in this patent, claims the employment of a receiving magnet, or its equivalent, in *combination* with a short, local, independent circuit, having a register magnet, for the purpose of obtaining more power. There is no such claim in the original. He there claimed the invention of the receiving magnet, or one of similar character, sustaining certain relations to enable him to obtain power, without mentioning a short, local, independent circuit, or the present combination. He now claims two short local circuits in a new combination, which is a material enlargement of his pretensions. His third claim is enlarged by claiming indentations upon paper, and other fabrics, instead of using coloring matter. His historical recital, though not an enlargement of his claim, is an attempt at self-glorification, at the expense of prior inventors. If I am right, in relation to these enlargements, this patent is a legal nullity.

Thirteenth. The power to surrender and re-issue on account of defective specification did not authorize Morse to make a new specification; and having made new ones, his patents are bad.

This case illustrates the danger of allowing a patentee, under pretence of correcting and amending a defective specification, to make a new one. There was really no such defect, and none can or will be pointed out in these old patents. The language has been changed so that the thing first patented cannot be followed, as the Court will learn by trying to do so in the new ones. Instead of correcting a void thing, so as to make it valid, as is pretended in the statement in these patents, new inventions and enlarged claims are ingeniously introduced. The surrender was not made, nor the re-issue claimed or granted under a pretence of describing omitted things, or of enlarging the claims so as to include the whole invention, but to amend a defective specification. Under this pretence, in fraud of the law, a new specification is written out, and things not invented by him are introduced, and claims made to cover known inventions of others. Neither then nor now can Morse name one thing that was not sufficiently described before. The act speaks of the new patent being issued in "accordance with the patentee's corrected description and specification." In these cases, instead of a corrected, we have a new description and new claims. We ask this Court to find, if it can, wherein these patents were inoperative or invalid by reason of a defective specification; and then to find wherein a correction is made which was necessary to secure their validity. Unless the words new and corrected are synonyms, this cannot be done. This is a fit occasion for this Court to check this growing evil, by expressing its disapprobation of a pernicious practice, which in this case carries on its face the impress of fraud. For this cause, these patents should be held bad.

Fourteenth. The first and eighth claims of the patent of 1840, as secondly re-issued, are for a principle or effect, and not for a machine, manufacture, or composition of matter, or an improvement upon either, and it is therefore invalid.

This is the most important question raised in this cause. Its decision will determine whether our patent laws really promote the progress of the useful arts, or hold them stationary for periods of fourteen years; whether the principles of nature, not invented by man, can be monopolized by one to the exclusion of all others; and whether a patent can confer upon a patentee the exclusive right to use what he did not invent, and to make an inventor respond in damages for using his own invention. If this can be done under our present laws, they should be promptly changed, or expunged from the statute book. Inventors cannot prosper under such a construction. They must be allowed the free use of what God has created, to mould and fashion it for man's use, or their energies will cramp and wither, and their faculties rust, without benefiting mankind, or aid, as they have done, in the great work of the world's improvement. What the honest inventor desires, and is essential to his success, is protection of what he invents, and simple and effectual remedies for invasions, with prompt trials. The laws, in my opinion, should be so amended as to confine contests to questions of infringement and damages only. With our present loose laws and monstrosity trials, and unnatural and strange claims under the law, if this claim to monopolize the principles of nature succeeds, the poor inventor can expect but little from his exertions to benefit himself or mankind. His inventions, and his chance of profits and hopes of honor, may be swallowed up by the prior monopolizer of nature's principles.

In his fifth claim, Morse patents a system of signs. These are not covered by any provision in the patent law. If Morse can monopolize this kind of writing, he must resort to the copyright law. His pretension that no one can combine dots, lines and spaces without violating his rights, cannot be sustained until he proves that he invented them. But we all know they are old, and it is so proved in this cause. He cannot combine these simple and common elements so as to prevent the rest of mankind making other combinations to meet ther wants. This attempt at monopoly is only equalled by his claiming the exclusive use of sounds, without even showing how they can be used at all. For both these causes, this patent is invalid.

In his first claim he patents the exclusive use of the motive power of magnetism, and in the eighth that of electro-magnetism. I shall treat them as one, though they are essentially different. This was not claimed in his first patent. The dangers of competition were increasing. The fraud both of a re-issue, with a skilfully-formed new specification, is resorted to. Knowing the kind wishes of the American people were with him, he was willing to run the hazard of patenting the exclusive use of the galvanic power through the electro-magnet. He now asks this Court to sustain him in this fraud upon the law, and this bold intrusion upon the common property of man. He doubtless had heard that some English cases had held, that he who discovers a new principle, and has invented a mode of applying it, is entitled to its monopoly. This rule would serve his purposes, and the changes in his patent were made, and O'Rielly forthwith sued for using what was lawfully used the day before the re-issue. But he mistook the English rule. The English courts have never held, as I understand the decisions, that a power provided by the Ruler of the universe can be patented to or monopolized by any man. They have held that when an inventor has combined and arranged material things, whether powers, machinery, or other things, so as to produce something new and useful, the principle of action, or by which the effect is produced, is an invention and patentable; but not the simple elements or powers used. The English cases do not refer to a principle of nature, but to the principle of the artificial being or thing invented and patented—its mechanical, chemical, or other principles. Our adversaries do not cite one case which goes to the extent of patenting a principle of nature. Judge Kane's opinion upon Morse's patents has been cited. He held that Morse's patent of 1840 was for an art, not for a principle of nature, and that Morse had under it the exclusive right to such art for fourteen years. He held Bain's patent was for the same art, and therefore void. The case before him was one on Morse's patents of 1840, 1846, and 1848. It was claimed by Morse that Bain's was identical with his of 1848. Being identical with it, if Bain's was void, as covering the art patented by Morse in 1840, then Morse's must have been void also, because Morse could not repatent his pretended art more than Bain. But Judge Kane held otherwise. He held Morse's patents of 1846 and 1849 to be valid, though they were for the same art he declared to be covered by the patent of 1840, and held Bain's to be void because Morse's last-mentioned covered the whole ground. This decision is a perfect *felo de se.* The identical principle which he applied to Bain's patent to kill it, if applied to Morse's two latest patents, would kill them also. He was equally unfortunate in his investigation of the facts. Morse's patent of 1846 does not show that the line can be worked both ways, nor that he patented and described an adjustable receiving magnet, nor does the record sustain the allegation that Steinheil's and Davy's inventions were mere semaphores, speaking to the eye. Both were recording telegraphs. Other errors could be enumerated. Having these things in mind, I cannot look upon the case as one of authority. Judge Kane went so far beyond the English cases as to stand alone. Our statute and the English are not identical. The English courts interpret their statutes, and our courts our own. But if our courts were to follow the English, they could not save this patent, because it is the principles of the machine, or the invention, and not those of nature, that they hold to be patentable.

But if we admit that he who discovers a principle, and shows a mode of using it, can have a valid patent to cover the made principle, it does not help Morse in this case. In the first and eighth claims he covers the use of the motive power of electro-magnetism; but he did not discover that power at all. It was discovered and used before he attempted to contrive a telegraph. This is proved and also admitted by his vain recitals in his patents. He did not first discover the power, nor is there a pretence of it in the case. The proof is all the other way. He merely applied it, by attaching his recording apparatus. Hence this patent cannot be sustained on the ground that he first discovered the motive power of electro-magnetism. If there is nothing else to sustain it, the patent must fall. This claim is broader than his invention, and therefore bad.

It is next alleged that a recording telegraph is an art, and that Morse invented that art, and that he is entitled to a monopoly of it. This position is an abandonment of the other. But, unfortunately for those who urge it, this is not the thing patented. The first and eighth claims simply cover the use of a specified motive power. If these fail, the patent is bad. They vitiate it entirely. The other claims no where refer to this pretended art, and it is not set out in the specification. It does not find a resting place in the patent at all. It only appears in my learned adversary's brief. The other side cannot point it out, and your Honors cannot find it in the patents. They will find only claims to dots, lines, types, combinations and machinery, &c., but no reference to the art, which, if it exists at all, must have been invented since the last re-issue. The next re-issue may include it, if the old expanding and grasping practice prevails.

Morse has an undisputed right to claim certain machinery, but he has embraced what he did not invent, which destroys the whole patent, as I have shown. But if we admit that Morse has claimed an art, has he invented one? Certainly not. "Art is the disposition or modification of things by human skill to answer the purpose intended." "Also a system of rules serving to facilitate the performance of certain actions." Has Morse, in this sense, invented an art, and if so, what art? The art of creating the galvanic current—the art of sending it from one pole of a battery, through a circuit, to the other—the art of making an electro-magnet—the art of attracting a needle or iron bar, or armature, by the electro-magnet, so as to create motion—that is, the motive power of electro-magnetism to indicate telegraphic signs—were all known and used before Morse's invention. The art of telegraphing includes things which he did not invent. All that he invented was indenting or marking these signs upon paper. This he did, having the aid of all the previous arts which I have enumerated. And in respect to recording, he was preceded by Steinheil. He cannot rightfully claim the art of telegraphing, because he only invented the manner of manifesting the messages, and not that of sending them. The whole means used for transmission were invented and used before his discovery. Hence the art of telegraphing is not his invention, and is not patented. The art of receiving the pulsations of the current in the electro-magnet was known and used before his invention. The attraction of the iron armature to the electro-magnet was not his invention. Henry and others had done this. The former attracted over three thousand pounds weight with an electro-magnet. The art of moving clock-work by weights was not new. Waiving Steinheil's older invention of marking by electro-magnetism, Morse did not wholly invent a mode of marking on paper by the motion of the armature, moved by the attractive power of the electro-magnet, because others had invented most of the elements and combinations used. The mode of combining circuits was invented by Henry and by Wheatstone before him. His only claim to the invention of the art of telegraphing is limited to a mode of marking, in which he was preceded by the learned Bavarian. If so shaping and suspending the armature as to cause it to rub against or strike upon moving paper constitutes an art, then Morse invented one; but not the art of telegraphing, because that includes more. If Morse has invented an art, it is not the one so vauntingly claimed, which includes numerous arts, or inventions, besides that of recording, which were perfected to his hands. The art of printing is referred to. Did any one man invent it? It is literally composed of more than a hundred inventions. Neither the paper maker, ink maker, type maker, ball or roller maker, nor press maker, with the numerous inventions applicable to each, invented the art of printing. Even Hoe, with his wonderful press, cannot make claim to the art of printing. It is the aggregated labor of numerous inventors. So of the art of navigation, the art of making iron and steel, cutlery, watches, &c. It is equally true of telegraphing.

But if Morse had invented the art of telegraphing, his claims should be confined to his mode of doing it, and cannot extend to all modes, because he did not invent all modes. By law, he is bound to disclose all modes known to him, and a wrongful concealment would vitiate the patent. He gives one mode, and the presumption is, that he knew no other. His invention, it is well settled, can be no broader than his discovery, and hence can only cover his own mode. The English cases cited cannot apply, because there is no new principle involved. Electro-magnets had attracted armatures before—weights had before moved clock-work to produce steady motion. Pens and pencils had previously marked, and dots, lines and spaces had before been used to signify ideas. Galvanic batteries had generated currents, and wires had conducted them. Circuits had been broken and closed by metallic contact. There is no reasonable pretence that any new power or principle was involved in what Morse invented. In truth, he has neither discovered a new principle in science or mechanics, nor invented the art of telegraphing, and was not the first inventor of a recording apparatus.

The American authorities repudiate the idea that any thing can be patented but the means invented to produce a result. In Wyeth *vs.* Stone, 1 Story R. 285, Story J. says, in relation to an invention for cutting ice, "The invention of this art, as well as the particular method of the application of the principle, are claimed by Wyeth. It is plain, that here, the patentee claims the exclusive art of cutting ice by means of any power other than human power. Such a claim is utterly unmaintainable in point of law." In Whittemore *vs.* Cutter, 1 Gal. 478, he said, "A patent in no case can be for an effect only, but for an effect produced in a given manner." In Stone *vs.* Sprague, 1 Story R. 270, he said, "We are of opinion that if the patent be construed to include all modes of communicating motion from the reel to the yarn beam, and of the connection of the one with the other generally, it is utterly void as being an attempt to maintain a patent for an abstract principle, or for all possible modes whatsoever of communication, although they may be invented by others and substantially differ from the mode described by the plaintiff in his specification. A man might just as well claim title to all possible or practicable modes of communicating motion from the steam engine to a steamboat, although he had invented but one mode." The English cases of Burnton *vs.* Hawks, 4 Barn and Ald 541; Hill *vs.* Thompson, 8 Taunton 375; Boulton and Watt *vs.* Bell, 2 Hen. Bl. 487, and Losk *vs.* Hague, Webster, P. C. 207, are to the same effect. In the latter case, Heath J. says, "what he (the patentee) cannot specify, he has not invented." "This patent extends to all machinery that may be made upon this principle, so that he has taken a patent for more than he has specified." Buller J. says, "A patent must be for some new production from those elements, and not for the elements themselves."

When Morse's patents were before Judge

Woodbury in Smith *vs.* Dowing, this question was elaborately discussed and most fully considered. My brief gives the material portions of the opinion. The Court then held that neither a principle, effect, nor an art, could be patented. The Judge said, a patentee "can be protected only in the mode and to the extent described." Refering to English Judges, he says, "Where any Judge speaks of patenting an art, it is not the art in the abstract, without a specification of the manner in which it is to operate, as a manufacture, or otherwise. But it is the art thus explained in the specification and illustrated by a machine, or model, or drawings, when of a character to be. It is the art as represented, or exemplified, like the principle thus embodied, which, alone, the patent laws were designed to protect. In the English acts, the word 'art' is not used at all. And in ours, as well as in our Constitution, the word art means a useful art, or a manufacture which is beneficial, and which by the same law is required to be described with exactness in its mode of operation, and which, of course, for the reasons already laid down, can be protected only in the mode and to the extent thus described." The resons given in this learned opinion were so strong, that no appeal has been taken to this Court from the decision. Judge Kane, in the Philadelphia case on these Morse patents, declared a contrary opinion, without doing himself or Judge Woodbury the justice to refer to the case at all, though cited by me. Judge Woodbury's argument was not then and cannot now be met and answered. It is true the learned Judge construed Morse's patent to be simply for the mode which he described, and that it was not therefore for an art, or the monopoly of a principle, as is here contended. Holding it to be limited to the simple mode which I have stated, as all he invented, and for nothing else, he did not declare Morse's patent invalid, but held House's invention was no interference, because the mode was different. The patent of 1840, as now presented, has a claim for printing "signs *or* letters." In the one before him, it was "signs *of* letters." As this claim is an interpolation upon the original, and covers marking or printing letters, and there being not even the pretence of description for producing them, this patent must be invalid on that account. Had it appeared in this form before Judge Woodbury, he, doubtless, would have held the same way. The principal reason usually assigned for sustaining these patents, so full of legal faults, is that the patentee has benefited mankind by what he has done, and ought to be rewarded. If the evidence did not show that benefit to himself was the ruling passion, I might answer, that thousands benefit mankind by their inventions and discoveries, where no law confers on them a pecuniary reward. Did Franklin patent his discoveries, or Lieut. Maury his? Professor Henry, who invented the heart, the very soul of Morse's telegraph, has neither asked nor received a pecuniary reward, while Morse uses it as freely as he does his own, which would be utterly useless without it. My great objection to Morse's patents is, that he attempts to monopolize one of nature's elements long known and used. He seeks to withdraw it from common use, not because he first discovered it, but because he has used it in a particular way. He tells the inventive world to beware! this power is mine: I have secured it in my re-issued patents, and you use it at your peril. Suits at law, suits in chancery, injunctions and ruinous litigations are threatened against those who dare now to use a power which others used long years ago. If the record shall be made by the action of galvanism upon paper saturated with certain salts, where no motive power is used at all, Morse claims that it violates his monopoly, and Judge Kane sustained him in the claim. In the present case, the use of the power of permanent magnetism is alleged to be an invasion of his patent, and the Judge below sustains this extravagant proposition. Morse's pretensions are not limited in practice to the use of the motive power of electro-magnetism to mark: but if used for any purpose whatever, however remote from his manner—if a mark is made, even by one who invented the mode—the cry of infringement is heard, and the grapples of the law fasten upon him. Let a new invention appear, a surrender and re-issue enables Morse to include it. The inventions of Barnes and Zook, involved in this case, of Bain's, in the Philadelphia case, and of House's in the one at Boston, were all sought to be brought within Morse's expansive and growing patents by the legerdemain of re-issues. House was prosecuted for using his own improvements, which Morse never invented. Rogers, assignee of Bain, was enjoined from using Bain's improvement, of which he was the first inventor. Numerous other suits are pending, which renders the decision in this case doubly important.

It is error to suppose that Morse has been personally involved in, or incurred heavy expenses for litigation. In this case he shares it with his co-plaintiffs. In all the other cases, so far from his being a party, or involved in expenses, others are plaintiffs, and he has uniformly appeared as their witness. Your Honors are now called upon to determine whether Morse can rightfully prosecute others for using what he did not invent—for using their own inventions or those of third persons. If Morse has the exclusive right to the motive power of electro-magnetism as he claims, it follows that if I make an invention a hundred times superior to his, he can lawfully use my invention, and punish me if I use the fruits of my own genius and toil. He can recover for what he did not invent or even describe in his patents, and prevent American citizens using what they or others found out and he did not. It would hardly be safe for Henry to use his electro-magnet if a record resulted from it. In his first patent of 1846, Morse actually claimed it by name. Steinheil and Davy, if not Wheatstone, might be punished if they should here use their own prior inventions. The chemist and electrician must abandon their laboratories, the arts and sciences must come to a halt for fourteen years, if telegraphs occupy their thoughts, or the proprietors of this undescribed and indescribable and boundless monopoly may open the batteries of the law upon them and demolish their hopes of fame and reward.

Most owners of property can describe their boundaries, but Morse's claim is too broad for description. It covers the productions of all mankind. It might well be called a patent to restrain invention and punish inventors and those patronizing them. To sustain it would be a most fatal blow to the inventive genius and energies of the country, and would defeat the policy of our Constitution and laws, and render them worse than useless.

(The arguments of other counsel will appear in future numbers.)

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NOTICE—DATES OF PUBLICATION.

FOR the purpose of making the *Volumes* of the "American Telegraph Magazine" correspond with the *Years*, so that each Volume may hereafter commence with January, and conclude with December; the Fifth, Sixth, and Seventh Numbers are arranged for issue as follows, viz.: the Fifth, for February and March, are now issued; the Sixth, for April and May, to be issued in May; the Seventh, for June and July, to be issued in July; after which period, each Number will be issued regularly each Month, so as to bring the Twelfth Number in December, which will complete the First Volume, and enable me to begin the Second Volume with the commencement of the next Year. ALL PERSONS who have paid FOR THE FIRST VOLUME will be entitled to the Numbers up to and including the December issue of this Year, 1853. DONALD MANN.

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AMERICAN TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE!*"—JOB.
"I'LL PUT A GIRDLE ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPEARE.

VOL. I.—NO. 5. **NEW-YORK, FEB. and MARCH, 1853.** DONALD MANN, EDITOR.

Telegraph History Examined.

OUR readers will observe that we are not responsible for the views and positions of the following able communication.

We choose to allow our correspondents the largest liberty in the expression of their opinions, provided only that they write interesting articles, and discuss in proper manner matters pertinent to the objects for the advancement of which the Telegraph Magazine is published. The following review of a valuable work will well repay a careful perusal, whether or not the reader shall arrive at the same conclusions with the writer.

(For the American Telegraph Magazine.)

THE ELECTRIC TELEGRAPH.

Lectures on the Electro-Magnetic Telegraph, with an Historical Account of its Rise and Progress. By Lawrence Turnbull, M.D., Lecturer on Technical Chemistry at the Franklin Institute, of the State of Pennsylvania. 1 vol, 8vo., pp. 186. Illustrated with Engravings.

THESE lectures are published from the Journal of the Franklin Institute, and the substance was delivered in a course of lectures before the Institute during the session of 1850 and 1851.

Dr. Turnbull traces the history of the various kinds of Electric Telegraphs from the earliest published suggestions and experiments. The rapidity with which electricity traverses great lengths of conducting matter, coupled with the power which it possesses of deflecting electrometers, had at an early period led to the idea of employing it as a means of conveying signals from place to place. The peculiar properties of electricity, upon which the action of the Telegraph depends, are its passage along conducting bodies—the power to render iron a temporary magnet—its capability to decompose chemical combinations, and cause deflection of the galvanometer needle.

As early as the year 1729, Mr. Grey and Mr. Wheeler observed the instantaneous discharge of electricity through some hundreds of feet of wire.

"Though electricity is the agent used in common by all telegraph operators, its modes of application have been as manifold as the number of laborers in this most interesting combination of science and art. Those now in use, and before described by historians, can be included in three divisions:—Taking them in the order of discovery and application, we have, first, the electric, in which simple frictional electricity was alone used; next, the galvanic, where voltaic electricity was employed; and last, the electro-magnetic—combining the agencies of Electricity and Magnetism. The first was used during the period from 1745 to 1800; the second from 1800 to 1825; the third from 1825 to the present time. From 1820 to 1850, there have been no less than sixty-three claimants for different varieties of telegraph.

"The first real attempt which seems to have been made to render electricity available for the transmission of signals is described by Moigno, in his *Traité de Telegraphie Electrique.* It is that of Lesage, a scientific Frenchman, who in 1774 established an electric telegraph at Geneva, composed of twenty-four metallic wires, separated from each other, and immersed in a non-conducting matter. Every wire corresponded with a particular electrometer, formed of a small ball of elder, suspended by a wire. By placing an electrical machine in communication with either of these wires, the ball of the electrometer which corresponded to it was repulsed, and the movement designated the letter of the alphabet, or whatever conventional signal it was wished to transmit."

In the first volume, page 42, of Arthur Young's *Travels in France*, during the year 1757, will be found the following description of an electric telegraph:

"Mr. Lomond has made a remarkable discovery in electricity. You write two or three words upon paper; he takes them with him into a chamber, and turns a machine in a cylinder case, on the top of which is an electrometer, having a pretty little ball of pith of a quill suspended by a silk thread; a brass wire connects it to a similar cylinder and electrometer in a distant apartment, and his wife, on observing the movements of the corresponding ball, wrote the words which it indicated. From this it appears that he had made an alphabet of movements; and as the length of the brass wire made no difference, you could correspond at a great distance, as for example, with a besieged city, or for purposes of more importance.

Electricity was generated and retained by the common machine and a Leyden phial. Having but one movement, and using an apparatus extremely delicate, we must suppose this mode of communication to be limited and dilatory."

"The *Madrid Gazette*, of November 25th, 1796, states that the Prince de la Paix, having heard that M. D. F. Salva had read to the Academy of Sciences a memoir upon the application of electricity to telegraphing, and presented at the same time an electric telegraph of his own invention, desired to examine it; when, being delighted with the promptness and facility with which it worked, he presented it before the King and Court, operating it himself. After these experiments, the Infanta Don Antonio desired another more complete telegraph, and occupied himself in testing the quantity of electricity that would be required by the telegraph at different distances, whether on land or water.

"Some useful trials were made and published in *Voight's Magazine*. Two years after, the Infanta Don Antonio constructed a telegraph of great extent on a large scale, by which the young prince was informed at night of news in which he was much interested. He also invited and entertained Salva at Court. According to Humboldt, a telegraph of this description was established in 1798 from Madrid to Aranjuez, a distance of 26 miles. Other writers affirm that M. Betancourt established a line of telegraph between the same places in 1787, and worked it with frictional electricity."

Our author, after showing the various kinds of electric telegraphs where frictional electricity was used, explains how galvanism was discovered by Galvani, Professor of Anatomy at Bologna, and the voltaic pile by Professor Volta, of Pavia. Common or frictional electricity had been found inefficient for telegraphic purposes, being too easily dissipated, rapid and incontinuous in action, confined with great difficulty to conductors, and devoid of that dense, energetic, yet almost imperceptible force which renders galvanic electricity so available in this art.

"The invention of the pile by Volta was the result of profound thought on the development of electricity at the surface of contact of different metals.

"The galvanic pile of Volta consisted of an equal number of silver coins and pieces of zinc of the same form, with circular discs of card soaked in salt water; of these he formed a pile or column, by placing them alternately. If the uppermost disc of metal, either copper or silver, be touched with the finger, previously wetted, while a finger of the other hand is applied to the lowest disc, a distinct shock is felt, which is increased with the number of plates. Instead of the moist conductor, we now use liquids of various kinds; and electricians have devised various forms of batteries, but all based upon the important principle discovered by Volta."

Professor Daniell was the first to invent a battery capable of constant and steady action. Another form of battery, proposed by Prof. Grove of London, is an improvement on Prof. Daniell's, and has been adopted in most of the telegraphic offices of this country. (p. 9.)

Sömmering, of Munich, first applied galvanism to telegraphing. In 1809, he constructed an apparatus which, by decomposing water, enabled him to give signals. His mode of doing so is fully explained by our author, and the various contrivances invented at different times are illustrated by wood-cuts or copperplate engravings. The work is the fullest and most complete on the subject yet published in this country.

Prof. Steinheil, in 1837, first employed the earth as a return portion of the circuit between telegraphic stations, and nearly all the telegraph lines are arranged on this principle. Much speculation has arisen as to the mode in which the electrical impulse is conveyed through the earth between the termini: though it is as much under our control as when transmitted through wire conductors, it is difficult to conceive the passage of the fluid in these cases as similar.

Arago made the important discovery of what is called magnetic induction by electrical currents. He was the first to form a temporary magnet.

"Mr. Wm. Sturgeon, a native of London, about the year 1825, discovered that when wires of soft iron were placed within the coil of a conducting wire, they were rendered intensely magnetic.

"Our knowledge of this subject was afterwards greatly extended during the period from 1828 to 1831, by the researches of Professor Henry, Secretary of the Smithsonian Institute at Washington." (p. 29.)

Electro-magnetic Telegraphs are the result of *Oersted's* discovery that feeble electric currents would produce a variety of magnetic actions.

Numerous forms of telegraphic apparatus were proposed. In 1820, Ampère suggested the employment of the deflexion of the magnetic needle by the agency of the galvanic fluid. "His plan was to have as many magnetic needles as there are letters of the alphabet, which might be put in action by the passage of currents through metallic conductors made to communicate successively with the battery by means of keys which could be pressed down at pleasure, and might give place to a telegraphic correspondence that would surmount all distance."—*Ann. de Chem. et de Phys.* XV. 73.

In 1828, *Peter Barlow*, F.R.S., suggested the establishment of a telegraph by means of conducting wires and compasses.—*Edinburgh Philosophical Journal*, Vol. 12, p. 105.

In 1828, *St. Amand* proposed to establish a telegraphic line from Paris to Brussels. He devised a mode of insulating the wire, and proposed by means of a powerful galvanic battery to transmit the current to a distant point "to an electroscope destined to render sensible the slightest influence; and he left to each one to adopt, at pleasure, the number of motions to express the words or letters which they might need."—*Report of Academy of Industry, Paris, from Vail's E. M. Telegraph*, p. 138.

In 1832 and '3, *Baron Schelling*, a Russian Counsellor of State, occupied himself with an electro-magnetic telegraph, operating by the deflexion of a number of needles. (p. 38.)

Gauss and *Weber*, two illustrious German philosophers, established, in the year 1833, telegraphic communication between the Astronomical Observatory, Physical Cabinet, and Magnetic Observatory at Göttingen. It consisted of a double line of wires carried over the houses and steeples at Göttingen. The circuit employed in 1833 was about eight thousand feet, and in 1834 or 1835, at least fifteen thousand, but part of this wire was reeled. Notices of this telegraph were published in 1834. "They first employed galvanic electricity by employing small-sized plates, and found that the action was much increased by adding to their number. They repeated and perfected their first form of telegraph by applying the phenomenon of magnetic induction discovered by Prof. Faraday. The divers movements or the slow oscillations of magnetic bars caused by the passage of the currents, and observed by the aid of a glass, furnished to Gauss and Weber all the signals which they wished in corresponding, but the number of signals which could be transmitted was few, and the time occupied by each considerable. The main apparatus was a magneto-electric machine, and to this Counsellor Gauss adapted a peculiar arrangement, by which the direction of the current can be reversed by a single pressure of the finger." (p. 39.)

In 1837 Professor Wheatstone of King's College, London, matured the invention of the Telegraph known as Wheatstone and Cooke's Needle Telegraph, a patent for which was issued in England on 12th Dec., 1837, it having been sealed the 12th June previous.

"The principle on which this Telegraph depended was that of combining several peculiarly constructed galvanometer needles. It was an application of Oersted's discovery of the deflecting influence of an electric current upon a magnetic needle." (p. 58.)

Wheatstone and Cook took out a patent at Washington for this invention, in May, 1840, to run from 12th June, 1837, that being the date of the English Patent. On 20th June, 1840, Prof. Morse obtained his first patent.

The Needle Telegraph of Wheatstone and Cook is still preferred in England to all others, probably on account of the fact that a weak current is sufficient to deflect the needles, which is a most important point in foggy and rainy weather.

The patent has expired, and a renewal was refused by the Judicial Committee of the Privy Council, on the ground that the patentees had been sufficiently remunerated. The patentees, whilst their patent was in existence, maintained suits successfully against parties who used any of their improvements in the mode of transmitting intelligence by means of electric currents. One of these suits was tried in the year 1851, and the decision of the Court at Westminster is reported in Dr. Turnbull's book, p. 67. Wheatstone and Cook only claimed certain specified "improvements in giving signals and sounding alarms in distant places by means of electric currents transmitted through metallic circuits." It is understood that they never made any thing out of their patent in the United States; the system patented by Professor Morse being considered an improvement on the Needle Telegraph, and being supported by a grant from Congress of a sum of money sufficient to build an experimental line from Washington to Baltimore. This line, however, was not commenced until March, 1843. It was completed in June, 1844. Lines had been built before this in England. In 1837 an experiment was made on the Birmingham and Manchester railroad through a circuit of thirty miles in length. (p. 47.) The line of telegraph upon the Great Western Railroad was finished in July, 1839. Thirty signals were made in a minute. (p. 60.) Professor Wheatstone took out a new patent in January, 1840, for further improvements. Professor Morse endeavored to take out a patent in England for his apparatus for marking signs, but his application was refused on the ground that the invention had been published previously in England, in the Mechanic's Magazine. He had better success in France, there being no obstacles in the way of applicants for patents in that country, but the French patent afforded him no profit, as the invention was not brought into operation within two years, the time specified in the French law.

In 1836 Prof. Steinheil fitted up an electro-magnetic telegraph according to the plan of Prof. Gauss. This telegraph was not described in a printed publication until August, 1838. "According to the authority of Prof. Morse, Steinheil's telegraph was adopted by the Bavarian Government, and was in actual operation during his visit to Europe in 1838. According to the same authority, in 1838, "Prof. Steinheil's telegraph was the only European telegraph that proposed to write the intelligence." (p. 70.)

The following is an extract from the original paper of Steinheil puplished in the *London Annals of Electricity*, March and April, 1839:

"To Gauss and Weber is due the merit of having in 1833 actually constructed the first simplified galvano-magnetic telegraph.

"It was Gauss who first employed the excitement of induction, and who demonstrated that the appropriate combination of a limited number of signs is all that is required for the transmission of communications.

"Weber's discovery that a copper wire 7460 feet long, which he had led across the houses and steeples at Göttingen from the Observatory to the Cabinet of Natural Philosophy, required no special insulation, was one of great importance. The principle was thereby at once established of bringing the galvanic telegraph to the most convenient form. All that was required was an appropriate method of inducing or exciting the current, with the power of changing its direction without having recourse to any special contrivances for that purpose. In accordance with the principles we have laid down, all that was required in addition to this was to render the signals audible; a task that apparently presented no very particular difficulty, inasmuch as in the very scheme itself *a mechanical motion*, namely the deflexion of a magnetic bar, was given. All that we had to do, therefore, was to contrive *that this motion* should be made available for *striking bells or for making indelible dots. This falls within the province of mechanics, and there are therefore more ways than one of solving the problem.*"

Steinheil goes on to describe his marking telegraph, which was somewhat similar to Morse's, as it made indelible dots which were the representatives of letters. Steinheil calls this "an *alteration* in the telegraph of Gauss" before referred to, where the oscillations of the magnetic bars were the subject of ocular inspection. But Steinheil adds, "I by no means, however, look on the arrangement I have selected as complete, but as it answers the purpose I had in view, it may be well to abide by it till some simpler arrangement is contrived."

A mechanical motion having been once obtained at a distant point, by means of electric currents, of course mechanics could easily devise a great many ways of making evanescent signs or sounds, or marking indelible dots and scratches. It was not so easy, however, to make use of the motion so as to write or print plain letters, as that required extraordinary mechanical skill, and various ingenious additional appliances.

The history of Morse's Electro-Magnetic Telegraph is set forth by our author at length. Morse invented a contrivance, by which the motion of the magnetic bar should be made available for marking indelible dots and straight lines. It occurred to Morse that the mechanical motion obtained as above described might be made to puncture paper, moved by clock-work, and that the punctures might stand for signs of letters, and he invented an alphabet of signs. Thus, three dots are made for A, two dots, a space, and then two dots more, for B, a dot and a dash for I, and so forth. This requires great care on the part of the operator, to avoid making a dash for a dot, and *vice versa*, and also care in the translation of the message.

To understand this process, it is necessary to bear in mind that the current is developed by bringing two points together, representing the ordinary opposing poles of a galvanic battery. By merely bringing these points together for an instant, the current generated is only of instantaneous duration, and at the register records its force or exertion by a single dot; but, if the points be kept together for a short time, the current continues to flow during the junction, and as the registering paper is passing constantly over the marking point, a line instead of a dot will be made. By combining these dots and lines, so as to represent letters and figures, a complete system of telegraphic signals is formed, the invention of which Prof. Morse claims.

As far back as 1832, Prof. Morse had his attention directed to Electric Telegraphs, and it has been made a subject of controversy between him and Dr. Jackson, of Boston, as to which of them first suggested to the other, in the year 1832, the idea that intelligible marks or signs might be made by means of electric currents. But neither of these gentlemen knew much about the subject at the period above referred to—not being aware of the principal discoveries and experiments that had been previously made. In fact, neither of them was aware that there had been electric telegraphs in any part of the world.

The telegraph first talked about by Morse and Jackson was not an electro-magnetic telegraph, but an electric or electro-chemical telegraph. (p. 42.) In 1835, Morse formed a mechanical arrangement "which is interesting, from the fact that it is the basis on which a long series of improvements has been made to bring the instrument to its present unique construction."

"But, becoming satisfied that the electro-magnetic power was more available for telegraphic purposes, as exemplified by the experiments of Prof. Henry and his own trials, he directed his attention to that agent." (p. 43.)

"Prof. Morse sent in a *caveat* to secure his invention, in October, 1837; filed his specifications and made applications for a patent in April, 1838; but withdrew them afterwards, that he might be enabled to obtain patents in the European countries." (p. 48.)

He went to Europe in May, 1838, and after his return, he secured his first patent, dated June, 1840, "which was given on the specifications of April, 1838, for *the rude instrument* already described, including a second electro-magnet, used to give an alarm, without the improvements up to the former date." (p. 48.)

"Unable to proceed further on a more extensive scale of experiment, he procured the support of prominent scientific men, in a petition to Congress, during the December session of 1842. Prof. J. Henry, in a deposition made in March, 1850, states of Mr. Morse as follows:

"'Shortly after my return from Europe, in the autumn of 1837, I learned that Mr. Morse was about to petition Congress for assistance in constructing the electro-magnetic telegraph. Some of my friends in Princeton, knowing what I had done in developing the principles of the telegraph, urged me to make the representation to Congress, which I had expressed some thoughts of doing, namely, that the *principles of the electro-magnetic telegraph belong to the science of the world*, and that any appropriation which might be made by Congress should be as a *premium for the best plan* and the means of testing the same *which the ingenuity of the country might offer.* Shortly after this I visited New-York, and there accidentally made the personal acquaintance of Mr. Morse. He appeared to be an unassuming and prepossessing gentleman, *with very little knowledge of the general principles of electricity, magnetism, or electro-magnetism.* He made *no claims*, in conversation with me, *to any scientific discoveries, or to any thing beyond his particular machine, and process of applying known principles to telegraphic purposes.* He explained to me his plan of a telegraph with which he had recently made a successful experiment. I thought this *plan better than any with which I had been made acquainted in Europe.*

"'I became interested in him, and instead of interfering with his application to Congress, I gave him a certificate in the form of a letter, stating my confidence in the practicability of the electro-magnetic telegraph, and my belief that the form proposed by himself was the best that had been published.

"'Mr. Morse subsequently visited Princeton several times to confer with me on the principles of electricity and magnetism, which might be applicable to the telegraph. I freely gave him any information which I possessed.'

"In response to his petition, Congress appropriated $30,000 for the purpose of testing its practical application. Thus enabled to prosecute his favorite theme with a freer element and more liberal spirit of investigation, he had the great gratification to exhibit to the American people his invention, working in an eminently successful manner, for a distance of forty miles, between the cities of Baltimore and Washington, in the month of June, 1844." (p. 49.)

It is a remarkable fact, that even after practical forms of the electric telegraph had been perfected in different parts of Europe, very little assistance was afforded by capitalists in building lines. The same want of enterprise was manifested in this country. Morse obtained his patent in June, 1840, and yet we find nothing done, not even a few miles of wire put up, until after Congress had made the grant before referred to. So that upwards of three years expired after Morse's invention had been perfected before it was brought into practical use between Washington and Baltimore; and it was extended no further until the close of the year 1845. As we have already seen, the application for the patent was made as early as April, 1838, but then the specification was for a "*rude instrument,*" afterwards abandoned. (See p. 48.) The caveat filed in Oct., 1837, signified that the invention had not as yet been perfected.

The success, however, of the short lines built in England and Bavaria, was sufficient to make it appear probable that the electric current might be transmitted to great distances at a moderate expense. It was found that wires suspended in the air were sufficient conductors without any insulation, except when in contact with the supporters. But still it was doubted whether the discovery could be made available and profitable for business purposes, and therefore capitalists in this country refused to invest their money in constructing telegraph lines either for the needle telegraph or Morse's. Mr. Morse complained bitterly of this apathy, and in a letter dated May 2d, 1840, addressed to Mr. Ellsworth, Commissioner of Patents, mentions the fact that the apparatus of Wheatstone was then being "carried into operation by a wealthy company for thirteen miles" in England, and that the telegraph of Steinheil, at Munich, was adopted and was carried into effect by the Bavarian Government. Morse, in this letter, insists that those systems are inferior to his own. And yet we find that Wheatstone's telegraph is still used in England, with of course various improvements suggested by experience. Although the principal patent of Wheatstone and Cook has expired, and there are great rival Telegraph Companies in England, and no legal obstruction to the use of Morse's machine, yet the needle telegraph in various forms is preferred to other contrivances. Morse's first patent was taken out on 20th June, 1840. It was for "a new and useful *improvement* in the mode of communicating information *by signals* by the application of electro-magnetism." In his specification he stated that he had "invented a new and useful *machine and system of signs* for transmitting intelligence between distant points by the means of a new application and effect of electro-magnetism in producing sounds and signs, or either, and also for *recording* permanently by the same means, and application, and effect of electro-magnetism, any *signs* thus produced, and representing intelligence, transmitted as before named between distant points." He called his invention the "American Electro-Magnetic Telegraph," and declared that it consisted of eight parts, which he described.

On 15th January, 1846, this patent was surrendered on account of alleged defects in the specification, and a new patent issued in its stead, to run from the date of the first. The body of the patent is in the same form as the first. In the specification the patentee states that he has "invented a new and useful *apparatus for and system of transmitting intelligence* between distant points by means of electro-magnets, which put in motion machinery for producing sounds or signs, and recording said signs upon paper," &c.

In the summary of his claim he refers to the previous discovery and use of "the deflective force of a current upon a magnetized bar or needle," and states that the "deflections thus produced were the subject of inspection, and had no power of recording the communication." "I therefore characterize my invention as the first recording or printing telegraph by means of electro-magnetism. *There are various known modes of producing motions by electro-magnetism*, but none of these have hitherto been *applied* to actuate or give motion to printing or *recording machinery*, which is *the chief point of my invention and improvement*."

On 13th June, 1848, this patent also was surrendered on the ground that the specification was defective, and a new patent taken to run from the date of the first. The body of the patent is the same as before. In the schedule reference is made to the previous invention of the needle telegraph, and it is stated that the deflections of the needle "required to be noted by ocular inspection at the instant the sign was made. By my invention the intelligence can be transmitted and imprinted on paper or other suitable substance," &c.

In his claim he refers again to the use of the needle telegraph prior to his invention, and says that "the galvanic current had been used to deflect a magnetized bar or needle, and that the deflections thus produced were the subjects of inspection, and had no power, or were not applied, to record the communication."

The principal novelty in this reissued patent is in the 8th claim, which is an addition to what appeared in the former patents. It is as follows: "*Eighth.* I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specification and claims, the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs, *or letters*, at any distances, being a *new application* of that power of which I claim to be the first inventor or discoverer."

Prof. Morse also obtained, on 13th June, 1848, a distinct patent for an improvement in the mode of strengthening the current in the receiving offices, which is referred to as the local circuit patent. And in May, 1849, he also obtained a patent for a mode of recording telegraphic signs upon paper chemically prepared.

It was at first supposed that it would be found in practice very advantageous to have stenographic marks permanently made on paper, so that they might be referred to in cases where errors crept into the correspondence as translated and written out to be delivered to the public. But we find that the advantage of recording mere signs is not universally acknowledged, and that even parties who have purchased from Morse the right to use his system have discontinued the recording of dots and dashes—the great feature of Prof. Morse's invention, and that which distinguished it from the needle telegraph.

The Company owning the telegraph line running from Buffalo to Milwaukie, called the Erie and Michigan Telegraph Company, working under Morse's patent, have for some time past discontinued the practice of recording the signs produced by the process above mentioned, and have instead thereof received their messages by sound. This they have done for the last two years without interruption, having found that they could receive three messages by sound in the same time which would be occupied in receiving two under the other system; and, moreover, that in receiving by sound they made fewer mistakes than they were liable to in the use of the dots and dashes, and also dispensed with some of the operators.

The mode of receiving messages by sound is very simple, and one operator is sufficient instead of two, who are required when the signs are recorded. The operator sits by his table in any part of the room where the message is received, and writes it down as the sounds are produced. The different sounds are made by the striking of the pen lever upon a piece of brass: thus, three raps in rapid succession are made for the letter A, two raps, an interval, and then two raps more, are made for B, and so forth.

The reasons given in England for preferring the needle telegraph to Morse's are, that there is more liability to error in the latter system, and that in rainy and foggy weather, when the electric current is weak, it is easier to deflect the needles than it would be to make the marks on paper. This appears to be so, and as reliability upon the telegraph in all weathers is a matter of paramount importance, we need not be surprised at the rejection of the system by which mere dots and dashes are indented on paper.

We understand that a new invention has been perfected, by which a *fac simile* of the manuscript message, signature and all, just as written, is transmitted over the wires. And an improvement on the needle telegraph has been invented, by which one wire is made sufficient for the transmission of messages both ways at the same time, by as many as half a dozen operators at each end, all operating at once. Evanescent signs of letters are used under this system.

It would seem, however, reasonable to conclude, that if messages, news, &c., can be sent in plain writing and printing by the electric telegraph, as easily in all weathers as by mere sounds or signs, whether the latter be evanescent or recorded, the day is not far distant when signs of letters will be discontinued, especially as there is liability to error in transmitting as well as in translating them. A little extra expense may well be borne in the use of the superior system. The difficulty hitherto has been in the want of sufficient force to move recording machinery in foggy and rainy weather.

Our author, in his Introduction, (p. 5,) says: "In regard to rival claims of the first discovery of the electro-magnetic telegraph, I have endeavored to follow the rule of its first publication; as, for instance, although Steinheil's telegraph is stated to have been in operation in the early part of the year 1837, still there was no published account of it until July, 1837, so that I have placed Prof. Morse's as the first electro-magnetic telegraph, his publication being in April, 1837."

By this he means the first marking or recording electro-magnetic telegraph, as he shows that several electro-magnetic telegraphs employing the deflection of small bars of iron to make signs had been projected and put in practice, in 1820, by Ampère; in 1825, by Barlow; in 1828, by St. Amand; in 1829, by Tubner; in 1832, by Schelling; in 1833, by Gauss and Weber, &c.

The publication of Morse's telegraph stated to have been made in April, 1837, was a published description in general terms of a projected telegraph, not of a telegraph in existence.

In September, 1837, an instrument working through 1,700 feet of wire was exhibited at the New-York University, which appears to have been somewhat similar to the "rude instrument" described in the specification filed in April, 1838. Steinheil's telegraph was *in operation* on a line constructed in the early part of the year 1837; Morse's was not in operation till June, 1844. It is incorrect to take in one case the period when the first crude project was published, and in the other, the period when the system was put into practical operation between different towns for business purposes. For this reason, we have not followed our author's chronology.

As to the needle telegraphs, there is no question about priority, and Morse in his patents refers to them as having been invented and published anterior to his invention. He says of them, that they did not record the signs, whereas by his system indentations of dots and straight lines are to be made on paper. That is the distinction which he relies upon.

We are unable to discover the importance of the difference. The question is, which is the best in practice—the telegraph by which intelligence is transmitted by sounds or signs, or that by which mere conventional signs of letters are marked on paper? Which is the most reliable, the least liable to error, the most economical, and the best in bad weather?

Be this question answered as it may, the claim of Morse to be the inventor of the first marking electric telegraph is not, in our judgment, sustained by the facts. He states in a letter dated December, 1852, published in the American Telegraph Magazine, that in November, 1835, he exhibited his recording telegraph in the New-York City University, and he contends that at that time "the child was born, and breathed and spoke." We have seen that he did not file a caveat till October, 1837, and that he then distinctly stated that the invention was not completed, and that he required time to complete it. He argues, in the letter just referred to, that the date of

Steinheil's invention must be taken to be—not the time when he first exhibited it—but the time when it was "in public operation between Munich and Bogenhausen." Morse's exhibition in 1835 amounted to no more than other exhibitions of mere plans and projects not put into practice, such as Ampère's plan proposed in 1820, Booth's in 1830, and many others.

It is true that Steinheil's apparatus was inferior to Morse's in some respects, and Steinheil himself intimated that mechanics could readily avail themselves of the mechanical motion of the magnetized bar in a better manner than he had done. There was no great merit in the mere conception of the idea that intelligible marks on paper could be produced by the action of the electric current, or by the mechanical motion just referred to. As to the making of intelligble marks by the action of the electric current on chemically prepared paper, that had been done by many persons years before Morse had heard of the electric telegraph. In 1830, Booth, in Dublin, explained fully how electro-magnetism could be used to telegraph at a distance, and cause *marks to be made by the fall of the armature* from the horse-shoe magnet when the current was broken. (*Appendix to Turnbull's Lectures*, p. 81.)

It must not be supposed that Prof. Morse claims to have been the first to invent or to put in practice an electro-magnetic telegraph. No such claim is made in his patents, original or re-issued: on the contrary, he therein disclaims the invention of the needle telegraph, and in the Philadelphia case he gave his testimony, in reply to cross interrogatories, as follows, (*Am. Tel. Mag.*, vol. I. 109:)

"*Fifteenth cross interrogatory.* Do you claim to have invented the electro-magnet? Ans. I do not.

"*Sixteenth.* Do you claim to have discovered that an electro-magnet will attract an armature of iron or steel? Ans. I do not.

"*Seventeenth.* Do you claim to have been the first inventor of the combination of an electro-magnet with a circuit of conductors? Ans. I do not.

"*Eighteenth.* Do you claim to have first discovered that the breaking and closing of an electric or galvanic circuit, having within it a generator of electricity or galvanism, will cause an alternate flow and cessation of a current of electricity or galvanism? Ans. I do not.

"*Nineteenth.* Do you mean to say that you were the first to discover that when an electro-magnet is connected with and forms a part of such circuit, the magnet will be made attractive and non-attractive, as the current flows or ceases to flow? Ans. I do not.

"*Twentieth.* Do you mean to say that you were the first inventor of the combining an electro-magnet and an armature in a circuit of electric or galvanic conductors? Ans. No, not generally in the abstract; but I do claim to be the first inventor of combining an electro-magnet and an armature *as described in my letters patent*, and of combining this combination with a circuit of electric or galvanic conductors."

Whenever Prof. Morse or the witnesses in the cases which have been litigated speak of his being the inventor of "*the* electro-magnetic telegraph," they speak only of his telegraph which has been dignified by that name, and do not mean to say that there were no electro-magnetic telegraphs prior to his invention.

Judge Woodbury, in his opinion in the Boston case, (Appendix, p. 40,) speaking of Morse's process of marking, says: "The lever, of which so much is said, seems only the old needle depressed at one end by the magnet, and of course elevated at the other till the current is broken; and by putting a pin or a pen in the last end, a dot or stroke is made on the paper rolling above or below, and the stenographic signs are then recorded."

We now come to the consideration of the question, What must a patent for an art, machine, &c., be limited to? The fundamental rule is, that the patent can only be for such method of exercising the art as the patentee shows the public by his specification; not for an art in all its branches, on merely showing one mode of exercising such art.

For example: The first inventor of the art of measuring gas could not have a patent for the art of measuring gas generally, on showing one mode of doing so. But the patent covered the *spirit or principle of the method devised.*

And the inventor of the art of planing boards by machinery could not obtain a patent for the art generally, on showing one mode of planing boards by machinery. But the patentee has the benefit of the principle of his method.

To apply this rule, let us assume that Morse was the inventor of a new species of electric telegraph, being the first to mark signs—he could not have a patent for the art of recording signs generally by electric currents, but only for a specified method of doing so. And then the question is, What is the spirit or principle of that method which others must not adopt?

The effect of this rule is to give ample protection to Mr. Morse, and the public are at the same time protected against what would be otherwise an absurd and odious monopoly.

By reason of the rule that a patentee must show how the public may enjoy his method of exercising the new art, manufacture, &c.,

in any of its branches, if he fails to show them how to do it to the extent of his claim, the patent is void.

The practical effect of this rule is to confine claimants to the principle of the contrivance, or distinguishing character of the process invented by them, and to prevent them from patenting an art in the abstract—a principle, an effect, or a general result.

The Printing Telegraph invented by Royal E. House, a native of Pennsylvania, is fully explained by our author. It was patented in 1848:

"This instrument has been appropriately termed one of the wonders of the age. Its apparent intricacy of construction arises not so much from the use of electricity and magnetism, as from the number of minute physical contrivances, and the various methods by which they are brought into action." (p. 96.)

"To answer and carry on intelligent discourse at the distance of many hundred miles, is not new, nay, it has become common; but to impress with the subtile electric spark, through vast space, solid material with the symbols of our language in the fulness of their proportionate beauty; to make the cold, dull, inanimate steel speak to us in our own tongue, surpasses the mythological narratives of ancient Greece and Rome, throws into the shade the fabulous myths of superstitious Arabia, and sinks into insignificance the time-honored traditions of the oriental world." (*Ibid.*)

By House's system the composition of the types of Roman letters is effected by the use of electricity, electro-magnetism, compressed air, and the force of a spring. Without any record being made, the operator can read the intelligence thus composed; and if House had stopped here, Morse would not have complained of infringement. But as House adopts the idea of recording on paper the intelligence thus composed and presented to the eye, Morse claimed that his patent was infringed, not indeed by the record being effected by the means used by him, or described by his patent, or any thing like it; but Morse insists that he was the first to conceive *the idea* of permanently marking intelligence by electricity, and that he could have a *patent for the idea irrespective of any specification* of the *modus operandi*, and that he has obtained such a patent. We have already seen that he is clearly wrong in all these three several particulars.

In the Introduction our author says that House's telegraph "will add a new laurel to the brow of the American people," and that "this wonderful piece of mechanism is worthy of the study of those interested in the physical sciences, as it combines principles of mechanics as well as the reciprocal action of electric and magnetic currents."

In Judge Woodbury's opinion in the Boston case, (Appendix, p. 36,) we find the following passage: "It is manifest still further, that while Morse's operates rapidly, and records in a species of hieroglyphic or stenography, which has to be translated into English, House's moves much faster, and at the astonishing rate of 60 or 70 strokes or breaks in a second, and at once records the information by its own machinery in Roman letters. It literally gives 'letters to lightning,' as well as 'lightning to letters.'"

Bain's Electro-Chemical Telegraph, patented in this country in 1849, is for making signs of letters similar to those used in Morse's system, by the action of the galvanic current on paper chemically prepared, without the intervention of any mechanical contrivances, worked by the motive power of electro-magnetism.

This patent was held by Judge Kane, in a case recently tried in Philadelphia, to be void as an infringement of Morse's patent, which in the opinion of that Judge conferred upon Morse a monopoly of all the means which could be devised for recording signs of letters by electric currents. There is no reported decision either in England or America sustaining this view of the law.

When Bain applied for his patent, it was resisted by Morse, not on the ground of his present claim to a monopoly of all the means of recording by electricity, whether described in his patent or not, but upon the ground that he had invented the same system as Bain's, and had filed a caveat before Bain's application. Bain had obtained a patent in England on 12th December, 1846, and on 27th January, 1847, a caveat for a similar invention was entered by Morse in the secret archives of the office at Washington. It was held by the Attorney-General that Bain being an alien could not be allowed to prove that he was the inventor before the date of his patent, but that Morse might show that he was acquainted with the invention before that date, and thus sustain his caveat. Accordingly, Morse's son proved that his father had explained to him the same invention before 12th December, 1846.

A patent was granted to Morse, whereupon Bain appealed, in the mode prescribed by the act of Congress, to the Chief Justice of the District of Columbia, who decided that Bain was entitled to a patent, which was granted accordingly.

The application by Bain for a patent was for a mode of telegraphing in which the galvanic current is made to produce marks upon paper chemically prepared, without the intervention of magnets or other machinery to be moved. The Commissioner of Patents, Mr. Burke, in deciding in favor of Morse as above mentioned, shows that by thus dispensing with machinery, the inertia which machinery has to overcome is avoided, which is very important in telegraphing through great distances, and more speed is attained. So that it appears that the system of making marks by machinery adopted by Morse, was inferior to the system of making marks on chemically prepared paper by the direct action of the current.

The proposition that Morse is entitled to a monopoly of all the means whereby marks may be made by the electric current, was not at that time dreamt of by Morse, his counsel, or the Commissioner of Patents. But the latter says in his opinion on the rival chemical telegraphs: "The invention, it will be seen by reference to the specifications of the parties respectively, does not consist in the use of the electric current to make marks upon chemically prepared paper, nor making marks through a single line of conductors, nor *could a claim to either of these devices have been entertained as patentable, as they have long been known.* It was shown by Faraday in 1833, (see Faraday's Researches,) that a current from even a single pair of plates was sufficient to make such marks, and to accomplish them he used a single wire touching the paper, making marks whenever the contact was made. This was a well-known mode at the time of exhibiting the chemical effects of the galvanic current." He then shows that at an early period patents for this mode of telegraphing were taken out in England.

Chief Justice Cranch, on the appeal to him, quoted and adopted this part of the Commissioner's opinion.

As already observed, it is claimed that Morse invented the pin at the end of the lever or needle to make a dot, also a roller with appropriate machinery to keep the paper moving, and a stenographic alphabet, and that he increased the power of the electro-magnet. His claim to originality in all these several particulars is denied; but conceding it to its fullest extent, how does it follow that he has a right to the exclusive monopoly of all the means of marking intelligence by electricity, whatever may be the mode used, the distance, &c.? Judge Kane says that Morse was the first to devise and practise the art of recording language at telegraphic distances (what is a telegraphic distance?) by any agency whatever. What is here meant by "*language*," and what by "*recording?*" It is not disputed that others had caused marks to be made on paper by the force of electricity, which were intelligible by noting the lapse of time between each mark, but it is contended on behalf of Morse that no one before him had made a mark *as a sign for each letter*, wherefore no one had "recorded language." We have seen that this assumption of facts is incorrect, but even if it were otherwise, then Morse should only be entitled to the benefit of his machinery for making the marks. The invention of a stenographic alphabet would not, of itself, be a proper subject for a patent, and the utmost extent of Morse's right would be to a patent for his mode of recording, which would include the alphabet.

Here we may ask what right had Morse to use the old invention of the electric telegraph for transmitting intelligence between distant points, either by the deflection of a needle pointing to letters, or by the making of marks on paper, interpreted by noting the lapse of time between the making of each of them? The answer is, because it was public property. Now Morse claims the exclusive right of using that old invention to produce other marks, on the strength of his claim to be considered the first who attached a pin to the end of a lever, making with it dots and dashes to be interpreted by a stenographic alphabet, and introduced a roller to keep the paper moving while the dots and dashes were made upon it.

Why should not others be allowed to use the old invention, adding thereto a process different from that added by Morse and producing a different result? It is not asserted that Morse could prevent any one from using electro-magnetism to present to the eye an intelligible letter or sign of a letter, but if a man should press with his thumb a soft piece of paper against such letter or sign and take an impression, then, according to Mr. Morse's last expanded claim, construed on the widest expansion principle, his patent is violated, because it is construed to be a patent for the *general or abstract idea* of committing to paper whatever intelligence may be sent by electricity!

The mischievous consequences that would result from the grant of patents for arts generally, without reference to the method invented by the patentee, are eloquently portrayed by Judge Woodbury. We will merely add, by way of example of the working of such a system, that if any one man had been the inventor of the art of transmitting intelligence by electricity by any means whatever, he might have taken out a patent, not merely for his mode of exercising that art, but for the art generally, and then, if his method had required the lapse of a half minute between each letter or word, no other and better system could have been introduced without his permission, which might have been withheld at pleasure.

"Such a doctrine," says Judge Woodbury in the great Telegraph case in Boston, "would discourage progress, rather than encourage useful arts, as the Constitution wishes to be done, by granting patents.

"It would, after one invention as to the same subject, or same principle or art, halt and bar all further advances on the same subject.

"It would petrify every thing as it stood—to the great loss of mankind, and in derogation of both private and public rights to advance human improvements and human power. It would, also, render the first improver a monopolist, and exclude the exercise or reward of further genius, science, and labor in the same line, however useful, and however much needed, beyond what has already been accomplished.

"But limit the doctrine, as we have done already, to the particular improvement made, and the patentee of it is allowed to protect that improvement, as he ought to be—it being his own invention, his own property, and the fruit of his own exertion; though of course it does not protect, and should not, a monopoly of what else may have been invented by others before, or may be invented by them afterwards, on the same subject. The chief care must be, while allowing others their rights, to shield his, and not let others claim or use his method or improvement colorably or fraudulently, but only use what is substantially different."

We may, however, safely assert that Morse did not invent either the electric telegraph or the electro-magnetic telegraph, and that he was not the first to publish to the world the form of either of those modes of telegraphing. Nor did he take out the first patent for either of them; nor was he even the first to obtain a patent in this country for either of them; nor was he the first to build an electric or electro-magnetic telegraph line for business purposes. There is no dispute about any of these particulars, nor is it pretended that he made any scientific discovery in electricity or electro-magnetism. What, then, are his admitted claims, and on what points is there any dispute? It is admitted that he was the first to build a telegraph line, in this country. But this was three years after he got his patent, and many years after electro-magnetic telegraph lines had been built in other parts of the world. The claim which is disputed, is the claim to be the first inventor of any mode of marking intelligible signs at a distance by means of electric currents. It is conceded, however, that he was the first to perfect and put in operation the peculiar apparatus described in his patent. Whether the principle of that contrivance was invented by him, or suggested to him by others, is disputed. He also claims to have invented what he calls "the local circuit" and "combined circuits," by which the electric currents are used in a peculiar manner.

In the cases which have hitherto been litigated, no commissions have been issued to take evidence abroad, and no scientific witnesses from abroad have been examined.

The question whether Morse invented his peculiar apparatus and process, is one which we have no sufficient means of determining. It appears that a patent may be obtained under our law for a machine, &c., which has been in common use abroad, provided the patentee here was not aware of the fact, but believed himself to be the inventor. It is clear, however, that others might begin where Morse began, and introduce other systems of telegraphing, provided they avoided the use of any thing invented by him. "All, however, must take care not to use any thing which Morse himself invented, but only, like him, use the fruits of their own perseverance and ingenuity." (Per Woodbury, Judge, *Turnbull*, Appendix, 41.)

It appears that the patent granted in England to Wheatstone and Cook yielded to those gentlemen the sum of £167,688 9*s*., or upwards of eight hundred thousand dollars. Of course a renewal was refused, although the company to whom the patent had been assigned had not made much profit. (*Turnbull*, p. 67.)

It appears, also, that Morse's patent has yielded an ample return to its owners. In the Philadelphia case, Prof. Morse testified as follows on this point, (*Am. Tel. Mag.*, vol. I, 103:)

"Having learned by experience that copper wire, though the best conductor, cannot be relied on for strength, and being obliged to exchange it for iron, the public confidence in the utility and value of the telegraph increased as it progressed, and little difficulty was experienced in procuring funds to build lines on routes of any considerable importance, on terms of an equal partnership between the owners of the patent and the subscribers of funds; the patent privileges being considered equal in value to the cost of construction. Lines have been built substantially on these terms along the Atlantic coast from Boston to New-Orleans, and from New-York to Buffalo, and more recently many other lines have been constructed, upon all of which my invention is now in full operation; my patented invention, as described by me in my first and second patents. The capital invested in said lines will not be less than $400,000, exclusive of the patent right. The owners of the patent have realized but little cash from these lines, having a property therein represented by stock in sundry joint-stock companies, or the right thereto, little of which has been sold.

"Several hundred miles of line have been sold for cash, producing upwards of $30,000 to the owners of the patent, and many more are under contract."

In the pending controversy between different parties of the Morse patentees, in the New-York courts, (Morse and Vail vs. F. O. J. Smith,) Prof. Morse swears that Hon. Amos Kendall has been paid the immense sum of two hundred thousand dollars ($200,000) for transacting *agency business*, which Prof. M. alleges that Smith should have performed for him, in connection with the telegraph patents. The principal receipts should be considerable where fees of such magnitude are allowed.

The electric telegraph has been a long time in advancing to its present state. "It is not the invention of one man or any set of men, nor of one nation, but of many nations, each adding their mite to the noble structure. Its history is based upon two of the most interesting of the physical sciences, those of electricity and magnetism. Had not these sciences been fully investigated, and thousands of laborers spent centuries upon them, we should never have seen an electric telegraph. Had not such men as Oersted, Ampère, Arago, Faraday, and our own Franklin, spent their days in experimenting and nights in studying, we should have never reaped the rich reward of these labors." (*Turnbull*, *Introduction.*)

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Life in a Telegraphery—Working of the English Telegraphs.

THE following sketch of life among the English Telegraphers will be read with peculiar interest by many of their fellow-craftsmen in America. Although the subject and the description are attractive to intelligent readers generally, yet no one who is unfamiliar with the routine of telegraphic duty—no one who has not spent long and weary hours in "watching and working *the instrument*," whether that "instrument" prints letters or dots and lines, or indicates by sounds or signs the intelligence passing over the lightning lines—no one who has not been long and earnestly employed in these exciting avocations, can fully appreciate the whole spirit of the scene thus vividly described. Some few of our readers may have seen the article before, as it was copied in some American journals; but probably none of them will regret its insertion here, for preservation, as a graphic picture of life among their Telegraphic brethren in the British isles.

AN EVENING WITH THE TELEGRAPH.

"The spider's touch, how exquisitely fine,
Feels at each thread, and lives along the line."

On arriving at the —— station I found that my luggage, which was to have been sent on from town, had not arrived. There was no time to be lost, and on applying to the superintendent of the station an order was given to make inquiries at London by means of the telegraph. Impatient to get some information about the missing baggage, I strolled to the electric telegraph office, to hear what was the answer received, but no satisfactory information had as yet been obtained; on the contrary, nothing at all was known about the matter. I wanted another message sent up to town, but on working the needles, it was found that the telegraph was engaged in corresponding with some intermediate or branch station.

The clerk, with whom I continued chatting through the little opening where all communications are given and received, was very young, but there was something in his manner that prepossessed you favorably, and moreover, there was a total absence of that abruptness of speech and quickness of manner that seem to have become a second nature with our railway officials. At last he invited me to enter his office—the very thing I had been manœuvering for and longing to do; for as I squeezed my head through a small opening, and looked into the snug room, warmly carpeted, and, although it was the beginning of August, with a fire burning in the grate, I could just catch a glimpse of the small mahogany stand and dial of the telegraph, with which he had been talking to the people in London about my trunks, and was very desirous of seeing a little more. Books were lying about the table, which seemed to indicate a taste not only for literature, but for its more imaginative productions; and so, then, as we sat over the cheerful fire, our conversation taking its tone from the volume into which I had dipped, we chatted about authors, style, and such matters.

"You would hardly believe," he said, "how such an employment as mine teaches one curtness; how one gets into the habit of saying what one has to say in as few words as possible, and yet with perfect clearness. I write occasionally little articles, and I find that in them I unconsciously avoid all redundancy or words, just as when transmitting a message. You have no idea what a lengthy affair the messages are which we have given us to transmit, with so many useless expressions that make the inquiry, or whatever it may be, nearly twice as long as necessary. In delivering it, we cut it down about one half, and yet our version tells all that is to be said quite as intelligibly as the original."

"The cause no doubt is, that those who want to give some information about a missing thing are anxious to describe it with all exactness, in order to make as sure as possible of its being recognized."

"But the details on such occasions," he answered, "are really without end. Now we, for our parts, seize on the salient features; we give the necessary marks or tokens, and these only. For nothing is the telegraph so often put in requisition as to inquire about ladies' dogs that are missing. Hardly a day passes without such inquiries. And such descriptions! A perfect history of the animal's habits and virtues! it seems they never can say enough. I have often thought how they would be shocked did they but see how all the long history of their favorites is condensed into a couple of lines. And yet it answers the purpose as well."

He here turned round to the dial plate of the telegraph, and after a moment's watching looked again into the volume, the leaves of which he was turning over.

"Was any one speaking to you?" I asked.

"Not to me; they are talking with the —— station."

"But how did you know it?—what made you look up?" I asked.

"Because I heard the wires."

"That's very strange," I observed: "my hearing is usually fine, yet I heard nothing."

"It is habit; besides, perhaps you heard the vibration too without knowing what it was. My ears are so alive to the sound, that, as I sit here reading, the instant the hands of the dial move, I hear them. That low click-click attracts my attention as surely as the bell."

"There is an alarum, is there not, which sounds when the clerk's attention is required?"

"Yes," he said, "this is it." And so saying he touched a wire, and instantly a hammer struck upon a bell, making a low, penetrating, long-continued noise. "But I generally stop the communication with it, for it is so loud, it is extremely disagreeable to be disturbed by the ringing of that thing at one's shoulder. Besides, I hear the other just as well, let me be ever so immersed in what I am about."

I now heard such a snap as takes place when, on putting your knuckles to an electric machine, the spark is produced. It was repeated, and on looking up, I saw the needles reeling to and fro. The clerk observed them for a moment, and then rising, went to the machine. Backward and forward they went, to the right and to the left, then with a jerk half-way back again—left, right, left—left, left—jerk, jerk—right, left, jerk, and so on; while the clerk who held two handles hanging from the instrument in his hands, every now and then would also give a good rattle with them, and pull them right and left, and give an answering jerk. All the time, of course, he was looking fixedly at the dial plate, as he would have done into the countenance of a person who was speaking to him, and whose character he fain would learn from his looks. Jerk, jerk, jerk—rattle, rattle, rattle—all was done; and writing down the message on a slate beside him, he copied it afterward on a paper to give to one of the porters. It was about some boxes sent on to —— by the last train.

"I know what clerk sent down that message," he said. It was ——."

"But how do you know which clerk it was?"

"By the manner of his handling the needles and their corresponding movements. I am sure who is working them as if I saw the person with my eyes. You of course would not detect any difference in the vibrations, yet there *is* a very great difference. There may be timidity, indecision, flurry, or firmness, in their movements. You see quite clearly if the person speaking to you is master of what he is about, if he does it with ease and decision, or if he is spelling his way, and anxious about getting through the matter well. And it is not only the quickness of the delivery that shows whether the person is skilful or not, but his very character communicates itself to the wires, and shows itself in the movements of the needles."

"How strange!—and it is really possible?"

"That in a man's movements much of his character is shown, you will allow. Well, as he takes hold of the handles to work the telegraph, he does it in a way corresponding with his own particular individuality. That is communicated to the wires, and here on the dial plate I see the inner man before me. The person I just mentioned is a very good fellow, but cautious, undecided, never sure whether what he does will be *quite* right or not. He is always hesitating. As soon as his hand touches the instrument, I know it is he instantly. There go the needles slowly from one side to the other, as if not quite certain about going across or not; they never go back suddenly, but always take their time, and move right or left hesitatingly, and with no decided swing. It is as like the man who is moving them as it is possible to be. It is quite a reflex of his mind: there is the impress of him exactly as he is. And it is very natural it should be so. The least hesitation or doubt communicates itself involuntarily to the hands as you hold the handles working the telegraph; and so fine and sympathetic is the conducting power—so sensitive are the wires, that every passing shade of feeling is felt by them. On the dial-plate it is all betrayed. Just as the mind of him at the other end of the wire is wavering, exactly so the needles are wavering too. Now he feels more sure; and yet that very same instant the change that has gone on within him is marked there also; the needles swing directly with sudden decision."

"This is really very interesting," I said; "and it is besides, to me at least, a new wonder connected with electric communication. That one should be able to talk with a person a hundred miles off, as if they were both face to face, is certainly extraordinary; but that the affections of the mind and their sudden varyings should be instantaneously transmitted such a distance—perhaps even before the individual himself was aware of them—this is assuredly very much more wonderful!"

"It is not," he continued, "in the manner of delivering a communication only that you discover the sort of person with whom you have to do. The way in which he receives yours is also very indicative. One, slow of thought, will let you give the whole word; while another, of quick comprehension, and of a bolder nature, will give the sign, 'I understand,' at the first letters. The very jerk too, which signifies that you know what is meant, is given by one with a decided, sure, firm knock; while with another, of a hesitating character, the needles seem to be hesitating too!"

"Just now," said I, "while you were receiving a message, I observed that every now and then you gave an unusually strong jerk—much stronger than the others. What did that mean?"

"Oh," said he laughing, "that was an 'indignant understanding!' The other was stopping to see if I knew well what he had said, and I showed by my manner of saying yes, that I was out of patience with this distrust. Such an 'Understanding,' given in that brusque manner, is not exactly very civil; but I really can't help it—one gets at last out of patience with such dawdling."

"And will the other, think you, understand that his questions and slowness put you out of patience?"

"No doubt of that. I knew he understood the way I answered him, and was sulky about it, for his manner changed directly. In the way I said, 'I understand,' was expressed besides, 'Of course I understand! Do get on, can't you, and don't stop to ask such foolish questions!' That is what we call an indignant 'understanding!'"

All this interested me much; and we talked on, now about a favorite author lying on the table, now of this thing, now of that, only interrupted occasionally by the click-clack of the mahogany case, that, like a something endued with life, was calling its attendant to come to it, and take heed. But while there, as one in presence of some demoniac thing, the telegraph exercised a sort of spell over me; and I always recurred to it, much as our conversation on other matters would have pleased me at any other time.

"You must not leave the telegraph for a moment?" I observed. "There must be always some one here to watch it, and be in readiness?"

"Yes; I or my brother remain here always. We take it by turns. Night and day he or I am here. He is gone to-day some miles off; so I have taken his watch for him. I was on duty before to-night, therefore this will be the third night I have been up!"

"It must be very fatiguing for you; beside, you cannot venture to doze a little, lest something should happen."

"Though I were to do so, if the wires began to move, I should awake directly. I cannot tell you *how* or *why* it is, but if there is the slightest tremor, I am sensible of it at once. Whether I hear it or feel it, I do not exactly know; but I am sensible that they are moving!"

"But intense watchfulness, by constant companionship with that animate yet lifeless thing, a sort of sympathy, or magnetic influence—call it what you will—may exist between you and it," I observed.

"It may be so," he replied; "but really I cannot say. The strain of attention that all occupation with the telegraph produces is very great. While reading off the communications just given, your mind is on the stretch. The intentness of observation with which you must follow the needles in their movements is very fatiguing. There is nothing hardly that demands such minute attention; for a slight mistake, and you lose the thread of the meaning, and this directly causes delay. Beside which, you get confused."

"This constant state of excitement must, I should think, at last make itself felt. It would be highly interesting to observe the influence it would exercise. Now, in yourself, have you," I asked, "remarked that any change has taken place since you have been occupied with the telegraph—that you are more irritable and excitable than before—or that the constant tension in which the faculties are kept has at all affected you?"

"I think it has made me more excitabte than I was before. It certainly has an effect upon the nerves. The vibration of the needles, for example, I should hear much farther off than you would—so far, indeed, that you would think it scarcely credible."

"Beside the constant attention and the night watching, I have no doubt that the incessant, quick, uncertain motion of the needles backward and forward, and from side to side—that constant tremulousness which you are obliged to observe and to follow so closely—must tend to irritate."

"Yes," he replied, "I dare say it is so. At night, however, one is seldom interrupted. Toward morning the foreign mails arrive, and then the dispatches for the newspapers have to be transmitted. This takes about a couple of hours or more close, uninterrupted work. When a correspondence continues thus long without a break, it is very tiring for the mind. As soon as it is over, all has to be written down in a book; this is the most uninteresting part of our occupation. Every message, important or not, is entered in a journal, and then, from time to time,* the accounts and money received are sent in, and the journals at the different offices compared, to see that all is right. All this is tiresome enough, but it must be done."

"In this way you hear all the foreign news before any one else. When the first morning edition appears, to you it is already stale. I wonder, though, that persons who have any thing secret and important to transmit, should like to trust their secret to two individuals wholly unknown to them."

"Oh, there is no fear of our divulging any thing," he replied. "Get something out of an electric-telegraph clerk if you can! Besides, we are forced to the strictest secrecy; bound, too, in a good round sum of money,† which we must deposit as security. There is nothing to be got out of us, I can assure you. It would never do if it were otherwise; for often matters of very great importance are forwarded in this way, and the confidence placed in us must be entire, and our secrecy above even suspicion."

He afterwards showed me his dwelling. Close to the office was a sitting-room, and opposite this the kitchen, &c. Above stairs were the bed-rooms; and though all was on a small scale, the arrangements were as comfortable as one could wish. I observed this to my new acquaintance, and that all was neat and well planned.

"Yes," he answered, "it is so. The company have not been sparing in making us comfortable. All is as nice as we could desire it to be. It is really very necessary, however, that it should be so; for, being obliged to be always here ready and on the watch, one could hardly do without these little comforts. My brother and I are happy enough together."

"I should think," I observed, "the employment must have much in it that is pleasant—a charm peculiar to itself?"

"You are right," he said; "at first it possessed an indescribable charm. There was something mysterious about it; and it was with a strange feeling, unlike any thing I had ever known, that I used to find myself holding converse with others far off, and watching, as it were, their countenances in the dial-plate. But the novelty over, all this died away; and though I still like the employment, it is no longer invested with its original charm."

"Were you long in learning to work?" I inquired.

"Not very long—it is not so difficult; but it takes a long time before you are able to read the communications sent to you—that is to say, quickly and easily. The speed with which a message is conveyed depends much on the person receiving it; for if he is quick and clever, he will understand what the words are before they are spelled to the end; and so meeting the other, as it were, half-way, the communication is carried on with great rapidity."

Here the hammer of the alarum, which, before we went into the other room, had been set, began making a tremendous noise.

"Ha!" said I, "some one is about to speak with you."

We went to the door of the little parlor, and looked into the office at the needles. They were moving backward and forward with their usual click-click.

"Is it for you?" I asked.

"Yes," he replied; "so many times to the right, and so many times to the left, that signifies —— station."

"What is it about?" I inquired, as I watched the needles, which, by their different movements over the small segment of a circle, expressed every thing.

"It's about the down train to-morrow. We are to send up some carriages."

"And where is it from?"

"From the chief station in town."

The needles soon moved again.

"Is it still the people in London who are speaking?"

"No: now it is the —— station."

I now had an opportunity of seeing how quickly my companion read the movements of the needles. Incessantly came the jerk, meaning "I understand;" again and again at quickly-repeated intervals. Once there was an unusual movement, and I afterwards inquired what it meant.

"It meant," he replied, 'say that once more.' I could not make out what was said; and, just as I imagined, the other clerks had made a mistake."

Now came the answer; and it was astonishing how quickly it was delivered. As one's words pour out of the mouth in speaking, so here they were poured forth by handsful. How the needles rushed backward and forward, then halted! now came a quick shake, and then off they dashed to the side with a bold decided swing! There was no hesitation here. Rattle, rattle, rattle; right, left, right: on it went without a pause; and soon the people at —— had got their answer from the snug little parlor at the —— station.

The evening had closed in, and there I still sat over the fire. A fire—a coal fire in an

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* Every month, I believe.

† If I remember right, £500.

English grate—has a wonderful attraction for an Englishman who has been a long time from his home. This was the case with myself; and therefore it was, I suppose, that I hung about the hearth as one does about a spot that is fraught with pleasant recollections. It was quiet, and cheerful, and cosy. Presently the clicking noise was heard again.

"Ah, ah! it is from the —— station," said my companion, rising. "It is a friend of mine who is speaking," he continued. "He wants to know if I shall come up next Sunday or not. 'I—don't—think—I shall,'" he said, repeating the words he was expressing by the wires. "He asks me if 'I am alone.' No—a—friend—is—here—with—me.'"

"I am glad you have somebody with you, and are not alone, for it is most confoundedly dull," came back in reply.

"Almost every evening," said my companion, "we have a little chat before night comes on. He does not like being alone, so he talks with me."

"Who have you got with you?" asked the friend so lonesome at the —— station.

"No—one—you—know"—was the answer.

"I tell you what," I said, laughing, "I'll give him a riddle. Ask him, from me, 'When did Adam first use a walking-stick?'"

"When Eve presented him with a little Cain (*cane*)," came back as reply almost directly.

"Confound the fellow!" I exclaimed; "I am sure he knew it before;" and we both laughed heartily.

"Confound—the—fellow—I'm—sure—he knew—it—before"—repeated my companion by means of the wires.

"Look at the needles," I said; "how they are moving!"

"Yes, he is laughing," he replied; "that means laughing! He is laughing heartily!"

Shake! shake! shake! shake! We laughed too in return by telegraph, just as we were then doing in reality. Another hearty laugh came back, with a "Good night!" We wished Good-night in return, and our bit of chat was over.

And soon after, bidding my friend a good-night too, I left him to pass the long hours till morning in companionship with that wonderful thing, which, though lifeless, was so sensitive, and though inanimate, could yet make itself heard by him who was appointed its watcher; its low yet audible vibrations being as the pulsations of a heart that at intervals, by its faint beating, gives sign of vitality.

Mexican Telegraphs—Atmospheric Phenomena, &c.

THE following interesting letter, as will be observed, is written by a person who has had opportunities of witnessing phenomena connected with telegraphing in a country much warmer than most parts of our own; and, although the facts which he presents are not sufficient to *establish* his theory, they are nevertheless of importance. If all telegraphers would keep a watchful eye to see, and a ready pen to record any extraordinary electrical manifestations, a mass of facts would soon be obtained, from which important laws would ere long be deduced.

Donald Mann, Esq., Editor of the Am. Tel. Mag.

DEAR SIR:—Having noticed in No. 2, page 74, of your valuable magazine, an invitation or request to all practical telegraphers to send the results of their experience for publication, I concluded that a few remarks upon some phenomena observed in connection with this interesting subject in another country would not be impertinent, especially as many things there presented themselves to my mind for the first time. I will endeavor to make myself understood upon one of these occurrences.

On the 18th of August, 1851, I found myself, with four other Americans, in the city of Mexico, for the purpose of assisting to erect a line of telegraph between that city and Vera Cruz, a distance of three hundred Spanish miles. In about three months, if my memory serves me correctly, we had the line working from the city of Mexico to a small town called Nopalucan, a distance of about one hundred and forty miles. Fifteen cups (Grove's battery) answered finely for the whole distance. This part of the line is upon what is called the table land, at an elevation of seven thousand feet above the Gulf of Mexico. In a few more months the other half of the line was finished to Vera Cruz, and I expected that not more than another battery of fifteen cups would be required to work this last half of the line; but it was found necessary to put a battery of forty cups in Vera Cruz, besides twelve cups at a station called Orizava, distant about eighty miles, to work the line between these two places. This part of the line was tried separately, not being connected through until some time afterwards. In the mean time we found that the fifteen cups in the city of Mexico and the twelve cups in Orizava were quite sufficient to work the line between those two places, which is over two thirds of the whole distance between Mexico and Vera Cruz; but when the line was connected through, it was found to be necessary to put another battery of eleven cups to make it work from Mexico to Vera Cruz. This state of things naturally led one to search for the causes operating upon the wire. The line passed through three dissimilar regions of country, viz.: Tierra Caliente,* Tierra Templado,* and Tierra Frio;† and I concluded that the whole difficuly lay in the region called Tierra Caliente, situated between Vera Cruz and Orizava, resulting, in my opinion, from the peculiar state of the natural electricity existing in that region. From this and other phenomena which I have observed connected with telegraphs, I came to the following conclusions, viz.:

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* Tierra Caliente—hot land or country.

That positive and negative electricity being a question of quantity only, or that a body in a positive state simply contains a greater quantity of electric fluid than one in a negative state; and when a conductor is placed so as to connect two such bodies, a current through said conductor is the immediate consequence for the purpose of establishing an equilibrium; hence our batteries in reference to the earth are positive bodies, and our wires, of course, the conductors. Now, if by any means an equilibrium is established between those bodies, the electric current ceases, and no magnetism is produced in the coils of our instruments, notwithstanding the batteries remain as previously arranged, the coils being in the same state as when the circuit is broken. This being conceded, it is at once perceived how almost numberless are the states or conditions that two bodies must pass through, while changing from the extremes of positive and negative to a state of equilibrium; and how the strength of current produced by a given amount of battery corresponds with the different electrical states of those two bodies. From what I have observed, I am led to believe that a section of country heated by a tropical sun is affected by atmospheric phenomena to a greater extent than any other, and that the earth in such regions approaches the positive so nearly, with reference to the battery, that it seriously interferes with its action, and makes it difficult to produce a current sufficient for telegraphic purposes. If this is correct, it should be a subject of consideration previous to building a line, the whole length of which is through a hot country.

I have noticed other phenomena which interested me much, but from the length of this communication, think it would be imprudent to remark upon them at present. Besides, I am not certain of having attained my object, which is to say something interesting and new to others. Without this my labor is lost. Hoping you view with kindness my desire to throw my mite of experience into the general fund, I beg to subscribe myself, yours very respectfully, TYRO.

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* Tierra Templado—temperate land or country.

† Tierra Frio—cold land or country.

Origin and Progress of Telegraphing.

Dr. Channing's Reply to Professor Morse's Statements about the Telegraph.

Donald Mann, Esq., Editor Telegraph Magazine

THE Telegraph Magazine of December 15th contains some strictures by Prof. Morse on a portion of my deposition in the Bain Telegraph case, which had been quoted by you in a previous number. Having no pecuniary or other interests to serve, I should not have sought to revive this controversy, and shall only now refer to Prof. Morse's exclusive claims, in answer to his remarks in your columns.

Prof. Morse first appeals to sympathy, (page 127,) as an American endeavoring to earn for his country the credit of the invention of the first recording telegraph, in opposition to Wheatstone of London and Steinheil of Bavaria. He has not one word of mention for Harrison Gray Dyar, the American who, as stated in Judge Woodbury's decision in the House Telegraph case, erected his wires on the Long Island race-course in 1827 or 1828, and recorded alphabetic signals on chemically prepared paper by electro-decomposition, using frictional electricity, and a single wire supported on poles with glass insulators. The omission of these facts, in a plea for the credit of the country, can hardly be accounted for, even by taking into consideration the sagacious decision given by Judges Kane and Grier at Philadelphia, that "Dyar had no recording apparatus," on the ground that in his experiments *he moved the paper by hand*, in anticipation of other mechanism which he states he intended to employ!

I refer thus to the telegraph of Dyar in the outset of the discussion, as the facts are at once decisive of the question of priority in regard to *the principle of recording* in favor of this country, though against Prof. Morse. Were it not so, however, the value of this claim to priority, as far as Prof. Morse's patents are concerned, would depend on the assumption that an art in the abstract, disconnected from a process, is patentable; an assumption which will never pass the ordeal of the Supreme Court and Congress of the United States, as the result of such patenting by wholesale, in the course of half a century, would be to tie up the whole industry of the country. The right of Prof. Morse to his precise combination and process, or *applied art*, is not in question. But his title, under a general name, to the processes of Dyar, House and Bain, is simply as absurd as would have been a claim to the "art of navigation" in all possible forms, by the first, or rather the second man who stepped upon a log floating in the water.

Prof. Morse complains that I have mixed and unequally applied two rules in determinng priority between himself and Prof. Steinheil, taking the time of construction in Steinheil's, and of publication in Prof. Morse's case. This is perfectly true, but the inequality is altogether in favor of Prof. Morse. I knew of no earlier publication of Steinheil's recording telegraph than its actual *public operation* between Munich and Bogenhausen in July, 1837, two months and a half before the caveat of Prof. Morse, and a month and a half before his "Successful Experiment with Telegraph, September 4th, 1837," (chronicled in Silliman's Journal,) which was made through 1700 feet of wire No. 18. We have no record of Steinheil's laboratory experiments, which must have preceded construction, and very probably went back to the time of Gauss and Weber's telegraph, with which he was familiar. To have been strictly just to Steinheil, the comparison should have been made between his date of July, 1837, and the time of the public operation of Prof. Morse'e telegraph in 1844.

So much with reference to Prof. Morse's criticism. Beyond this, I am entirely willing to admit that the testimony of friends and co-partners of Prof. Morse, parallel with my own, in the House and Bain telegraph cases, goes to show that *private* experiments were made by him on an electro-magnetic register, as early as the beginning of 1836. I will also give all proper weight to the notice of an electric telegraph by Prof. Morse, contained in the New-York Observer of April 15th, 1837, which describes it, whether erroneously or not, as using a multiplicity of circuits. I cannot in justice, however, in an historical statement, confound the undeveloped plans of Professor Morse, as they appear before September, 1837, whether in publications or private testimony, with the elaborate and perfected systems of Steinheil and Wheatstone of the same year.

Prof. Morse objects to my referring to Wheatstone's patent as "sealed June 12th, 1837," instead of designating it by the time of its "enrolment," six months later. In the historical review, the *sealing* of Wheatstone's patent is justly put before the *caveat* of Prof. Morse's; and in the discussion concerning priority in the invention of the local circuit, with reference to which alone Wheatstone's patent is cited at any length in my deposition, the date of enrollment, December 12th, 1837, may be taken equally well as regards the result with June 12th, 1837, since no mention of such an invention is made in the caveat of Prof. Morse, which was filed between those dates. Moreover, Prof. Joseph Henry has testified, in the House and Bain telegraph cases, that Wheatstone exhibited to him in London, April 1st, 1837—more than two months before the *sealing* of his (Wheatstone's) patent—his method of bringing into action a second galvanic circuit, in connection with the plan of his telegraph. Wheatstone had, however, been anticipated in the invention of the receiving magnet and local circuit by Prof. Henry himself, who employed an intensity receiving magnet in a long circuit, to operate a short local circuit containing a quantity magnet, prior to his visit to Europe in February, 1837, which invention he believes he had also explained to his class at Princeton before that time. I am aware that Prof. Gale has stated that Prof. Morse constructed a receiving magnet in the spring of 1837, but this was not apparently of sufficient importance, or was not sufficiently successful, to be noticed in the caveat of October 6th, 1837; while Prof. Morse himself testifies in the House Telegraph case, with reference to the description of his telegraph before the French Academy, on the 10th of September, 1838, as follows: "That description, however, did not include the office circuit or receiving magnet, *the utility of which was then unknown;*" and finally, even in the patent of Prof. Morse of 1840, the receiving magnet was strictly confined to the connecting or relay of *long* circuits. Wheatstone's patent, using a local or office circuit to actuate his alarum, was *enrolled* December 12th, 1837, and Henry's local circuit was in use nearly, if not more than a year prior to this date. The local circuit was also employed by Davy in his patent, (sealed July 4th, 1838, enrolled January 4th, 1839,) for the purpose of registering by decomposition, in addition to two other uses; while the first description of the local or office circuit in Prof. Morse's patents is in that of 1846. I have made this hasty review of authorities on the local circuit, to show that, as a chasm of several years exists between the use of the local circuit under Wheatstone's patent and its adoption by Prof. Morse, I have done Prof. Morse no injustice in this connection, in designating Wheatstone's patent by the first of its official endorsements instead of the second, which it precedes only six months.

It is time that certain historical facts connected with the Telegraph should be clearly understood by the public; and chief among these, that the Telegraph itself, with its wonderful characteristic, the instantaneous transmission of electricity over long conductors, was the discovery of the last century, and tested then on a large scale. The great inventions of Dyar, Wheatstone, Steinheil, Davy, Morse, Bain, House, and others, are for the most part simply in the transmitting and indicating apparatus. Next to this fact, the origin of some of the important parts of modern telegraphic systems, especially those connected with Prof. Morse's telegraph, deserves to be mentioned.

Dyar's *electro-chemical recording apparatus* was used in connection with his telegraph erected on Long Island in 1827–8.

Poles with *glass insulators* for supporting the wires were used by Dyar in 1827–8; *insulation on buildings* by Gauss and Weber in 1834; *poles* again by Steinheil in 1837.

Iron wires were used by Dyar in 1827–8, and by Steinheil in 1837.

The *ground circuit* for return was used by Dyar in 1827–8, by Steinheil in 1837.

The discovery of the *intensity magnet* and its relation to the *quantity magnet*, and to quantity and intensity batteries, with its bearing on the project of the electric telegraph, was published by Prof. Henry in 1831.

The combination of the *electro-magnet, armature and lever beam*, forming part of Prof. Morse's register, is identical with that of Henry and Hare of 1831.

The *graphic register* on which the electro-magnet of Prof. Morse marks is identical with that of M. D'Ous-en-Bray of 1734, on which the movement of a vane registered the winds by means of a *pen point.*

The *receiving magnet* was invented by Henry in 1836, or possibly earlier, certainly before February, 1837, and a receiving instrument by Wheatstone as early as April 1st, 1837, both used to develop the functions of a *local circuit.*

The use of *sound* goes back to Cavallo in 1795, who exploded a gas pistol by the electric spark, as an alarum at the commencement of signalizing. Sömmering in 1808, and Schilling in 1832–3, struck a bell for the same purpose. Henry, in 1833, applied a long circuit to strike a bell by means of electro-magnetism; Gauss and Weber, in 1833–4, struck an alarum by electro-magnetism; and Steinheil, in 1837, used a bell for common signalizing. Wheatstone, in 1837, used an electro-magnetic *call*, almost identical with those now commonly in use. An alarum apparatus is mentioned in Prof. Morse's caveat of October, 1837.

The *signal key* was described by Ampère in 1820, and the key of Wheatstone, patented in 1837, is in principle similar to the improved key in common use.

The "*stop*," acting on the fly-vane, is described by Davy in his patent of 1838–9.

Alphabets of *dots and lines* are among the methods of writing by cipher described in Rees' Encyclopædia.

The *switch* is described essentially in Wheatstone's patent of 1837, under the name of a "bolt."

The *port rule* and *types* of Prof. Morse's telegraph were, I believe, first described in his caveat of 1837.

To conclude these remarks, it will thus be seen that most of the elements entering into Prof. Morse's telegraph must be ascribed to other inventors. It is just to add that the combination of these elements by Prof. Morse and his associates into his telegraphic system was a very important improvement upon all preceding systems or telegraphs, and would only be remembered to his and their credit, if there were no exclusive pretensions connected with it.

The processes of Bain and House were subsequent, and need not enter into the comparison. Respectfully yours,

Wm. F. Channing.

Boston, Feb. 15, 1853.

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Meteorological Observations at the Smithsonian Institution.

We learn by a communication in the National Intelligencer, from Prof. Henry, Secretary of the Smithsonian Institution, that that Institution is now engaged in a series of investigations relative to the meteorology of North America, and is desirous of collecting all information bearing on this subject.—*Scientific American.*

In all investigations of the above character, the Telegraph might and should be made to render most important service, giving as it does, to the investigation, a sort of ubiquity, for the purposes of *observation*, otherwise not to be attained, or even in any degree approached.

Prof. Henry, the *scientific* originator of the Electro-Magnetic Telegraph, will, we doubt not, make it subservient to the cause of science whenever and wherever it can aid that cause to which his own life is devoted, and of which he is one of the most distinguished ornaments.

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Atmospheric Electricity—Aurora Borealis—and the Telegraph.

Donald Mann, Esq., Editor Telegraph Magazine:

Dear Sir:—I feel much interested in the success of the Telegraph Magazine, as a medium through which many interesting experiments in electricity, galvanism, and magnetism will be made known to the public, which otherwise might be lost to science and the world. As one of a highly interesting character, I read the communication of your correspondent "G. B. P." of Boston, and beg leave, with your permission, to make some suggestions on the subject, and solicit further and more minute information from him on the subject of the effect produced by the Aurora Borealis on the wires.

Were it not for the remark that "Mr. Rowe, Superintendent of the Boston and Vermont Telegraph Company, showed me specimens of paper taken from the instrument on that line at 12 o'clock at night, three hours after the batteries were taken off," we should be led to suppose that the effects noticed were the combined productions of the battery current and the Aurora Borealis.

I would therefore inquire of Mr. "G. B. P." if he has ever witnessed any effect produced by the Aurora Borealis at times when there was no galvanic battery attached to the wires; and whether, at the time of observing such effect from the Aurora alone, the wires were connected with the ground at each end so as to form a circuit in connection with the ground?

In pursuing these inquiries, it is very desirable to learn how far the effect is due to the Aurora Borealis, how far to the galvanic current, how far to atmospheric electricity, and how far to a combination of either two or all three of those elements.

I am not aware of witnessing any effect of Aurora Borealis on the wires, but have witnessed the effect of atmospheric electricity both during thunder-storms and fair weather.

I recollect an interesting experiment I once made by applying the end of the wire to my tongue to determine if the line was whole from the place I was at to New-York, a distance of about fifty miles. The effect was so sensible as to satisfy me that the wire was whole, and that I tasted and felt shocks from the battery current. Other circumstances led me to follow the wire towards New-York, and at a distance of six miles from where the experiment was made I found it broken, and that it had been so broken when I tried the experiment, thus showing the effect I experienced to be that of atmospheric electricity taken up by only six miles of wire.

In the sensation produced upon the tongue in this experiment, I witnessed all the variations of wave described by "G. B. P.," of "light and heavy blue lines and bleachings," or as presented to my sense of taste and feeling of the slightest taste to a sensible and strong taste, light shocks to those that were unendurable. During this experiment one end of the wire was disconnected from the ground, and the other end connected with the ground through my person.

There are undoubtedly many interesting facts connected with this subject in the possession of telegraphers in the different sections of the country, that would be interesting and useful if brought out through the medium of the Magazine. Many of them, to be fully understood, should be illustrated with diagrams and cuts, and I should be happy to learn that the Magazine was receiving a patronage that would warrant the outlay requisite for such illustrations. Yours respectfully,

C.

New-York, Feb. 18th, 1853.

The Great Telegraph Case before the Supreme Court of the United States.

It seems that, in view of the immense importance of the facts and principles involved in the Telegraph case, raised on the "Appeal of Henry O'Rielly *et al.*, vs. Samuel F. B. Morse *et al.*," the decision of the Supreme Court is deferred till the next session, that the matters in issue may be considered during the vacation. So the matter rests for another year.

However important to the parties concerned that a *prompt* decision should be made, it is far more important to the American people that a judgment which must materially affect millions of property in other patent matters as well as in telegraphing, should go forth to the public with all the sanction of well matured consideration. The questions at issue, aside from their pecuniary effects on multitudes of people throughout the Union, appeal with peculiar force to the whole American people, inasmuch as they involve the question of monopoly in the business of telegraphing, as well as the validity of alleged inventions and disputed patents.

The arguments of counsel, on both sides, are said to have been marked with much ability and great research. This much might be expected, from the character of those gentlemen. Gen. R. H. Gillet, formerly Solicitor of the United States Treasury Department, and Senator Chase, of Ohio, argued the case for the appellants. Mr. Gifford, of this city, with Messrs. Campbell and Harding, of Philadelphia, all men of mark in patent matters, contended for the appellees.—*N. Y. Express.*

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The Great Work of the Age.

Intercommunication of the Atlantic and Pacific States, across our own Territories.

(Proposed Establishment of a Highway and Line of Settlements, with Telegraphs and Railroads.)

The project foreshadowed in this caption, as was remarked in O'Rielly's Memorial to Congress,* "may, in its immense and manifold influences, challenge comparison with any system of policy (aside from questions of personal liberty and national independence) now under discussion in this Confederacy or any other nation of the world."

It rejoices us now to witness the recent comprehensive and statesmanlike manifesto, in which Col. Benton has again presented to his countrymen his views upon these all-important questions—questions which, in their relation to each other and in their connection with the general and enduring interests of our vast Confederacy, may be preëminently distinguished as the *true* "AMERICAN SYSTEM."

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* Vide first number of *American Telegraph Magazine.*

The failure of all projects lately before Congress in reference to the matters mentioned, leaves a clear field for the consideration of Benton's propositions; and it was partly with reference to his influence upon these particular questions, that we seized the opportunity in our October number to congratulate the public upon the election of the veteran statesman to a seat in the popular branch of the Federal Legislature. In chronicling his election as a Representative, we then added, and now repeat, that "many who differed from Col. Benton on some of the various exciting questions which divided the community during his long senatorial career, rejoice most cordially at his election to the popular branch of Congress at the present time, and under existing circumstances—believing, as they do, that no man is better qualified to conduct the warfare which all good citizens should now unite in waging against the corruptions that are literally overwhelming some branches of the public service. Unless we totally misapprehend the character and intentions of Col. Benton in reëntering the stormy field of political life at his advanced age, we may safely predict that, remarkable as has been his long and eventful senatorial career, his course in the House of Representatives will most essentially signalize his character as the champion of governmental reform, while forming an era in the history of the popular branch of our Federal Legislature."

But we will not longer delay the reader from a perusal of Col. Benton's statements; save with the remark that the magnificence of the propositions is characteristically illustrated by reference to all that has been or is likely to be most enduring in the history of human improvement. Here are all the extracts we can now crowd into our pages:

Magnificence of the Enterprise.

"It is a work for posterity and for three continents," says Col. Benton; "and we should elevate ourselves to the grandeur of the occasion. The main street in the city which Alexander the Great founded to supersede Tyre in the East India trade, was five miles long and a thousand feet wide, with a colonnaded and covered footway of one hundred feet on each side. There were men of ample ideas in those times, and still it was not the age that built the pyramids. 'From the summit of those pyramids,' said the conqueror of the Mamelukes, 'forty centuries look down upon us.' The time will come when forty centuries may look back upon this road; and they should not be left to repine at the improvidence which would dwindle it to the petty calculations of jobbers, corporators, and speculators.

"In view of the magnitude of this work; in view of our dominion over the public lands from Missouri to California; in view of the immensity of travel and business upon it, great at the start, and to increase for a longer time than the pyramids have stood; I propose to have the plan of this road, or rather systems of roads, on a scale commensurate to its future destiny, be that as great as it may. I propose to reserve a tract of a mile wide for all sorts of roads, rail and macadamized, and a plain old English road, such as we have been accustomed to all our lives, on which the farmer in his wagon, or on his horse, and driving his cattle, may go without tax or fear, with none to run over him, or make him jump out of the way under the penalty of being crushed. We shall want tracks for many railways, necessary in future time, and all unconnected and independent of each other. *No monopolies* on such a mighty line of *travel* and *transportation.* Two margins of a hundred feet each should be reserved for *independent and rival telegraphic lines.*

"I have said the public lands on the line of the road will build it. Ten or twelve miles on each side will build it, on the preëmption principle, $1.25 an acre; and the meritorious settlers upon that principle will be the guard to protect it, the hands to help to make it, and the cultivators to help furnish supplies to the laborers. When done, it should be free; that is, no tolls upon it; a road of that length will not bear tolls, except slight, to keep it in repair. A transit duty on *foreign* commerce—a slight charge, such as all nations exact from *foreign* commerce traversing its territory—would be the proper source for the repairs which would become necessary; and thus Europe would indemnify us for the use of the road."

Character and Construction of the Lines.

Regarding it as certain that the road is to be made, I now add some observations upon its character and construction; believing that erroneous ideas prevail upon these points, which the public good requires to be corrected. I am opposed to all schemes of making a job of the work—against mixing public and private interests—against furnishing the means of making the road to jobbers, and then letting them own it, and charge the people double upon condition of carrying for the Federal Government free. I hold that it should be made by the United States, *so far as their territory extends*, (which would be almost the whole distance on the Central route,) leaving the two ends, where it would go through States, to the operation of State laws and State authority. This would be from the Missouri

State line at the mouth of the Kanzas, to a point on the California State line, opposite the end of the Sierra Nevada at Walker's Pass, a distance of 21½ degrees of longitude, equal to about 1200 miles, (56 miles to a degree in that latitude,) with a southern deflection, as it went west, of 3½ degrees. This would be the main body of the work, leaving the two ends to roads to be made under State authority, and which are already projected, and in some degree commenced both in California and Missouri. In the meantime, and as a permanent help and resource at each end of the road, there is now steamboat transportation of several hundred miles at each end, from San Francisco half way up the San Joaquin or more; from St. Louis to the mouth of the Kanzas, and up it (as soon as the new Territory is established) several hundred miles farther. Stages also, and all the usual land conveyances would be at each end of the national territorial road.

My idea is, that the road should be built by the United States, by the creation of a stock hypothecated upon the public lands, and payable at a fixed period at the Federal Treasury; and that an adequate force should be put upon it to do the work at once. We think nothing of levying an army of fifty or a hundred thousand men for a war; here is an object of more moment to the United States and to the WORLD than many wars; and I should be in favor of seeing an army of laborers employed upon it at once, and the work done in seven years, instead of piddling at it for a lifetime. And why not? We can have the money and the men; and on a line of 1200 miles there would be room for 50,000 men to work, without elbowing each other. It would only be 40 men to the mile. The preëmption system would give the money and the settlers —the right kind of settlers—men who would defend themselves from Indians, and raise provisions for the supply of the road, and occupy it on both sides, and from one end to the other, the first season they were allowed to do so.

The Indian title should be extinguished on a breadth of fifty to one hundred miles, and a mile reserved for the different tracks of railroads, and for a common road, and for telegraphic lines.

Opposition to Log-rolling Plans of Construction.

I repeat: I deem all schemes of making this road by a mixture of public and private means; giving lands or money to companies to make it, and then let them own it; conveying for the United States gratis, and doubling upon the people to make it up; getting, in addition to their other profits, interest upon the cost of construction, and which cost was defrayed by the United States; and all this crowned with a monopoly of the road; I deem all such schemes to be fundamentally unwise, unjust to the community, impolitic, and vicious. I hold that the United States should build the road and the fixtures, and let out the use of it for periods of seven or ten years to contractors, who will carry all freight, public and private, and all passengers, individual and governmental, at the same rate—the lowest responsible bidder to take the contract and furnish his own cars and run them; and if under-bid at the end of this time, or superseded, the successor to take all his stock at a valuation.

It is an illusion and a cheat to suppose that contractors will carry for the United States gratis. They will get their pay somewhere, and ought; and the fair way, and the only intelligible way, and the only way for each party to know what they are about, is for the United States to pay like an individual for all that is done for it. It is the only way to save the people from being oppressed and plundered. Besides, what is the government—our government—but the people? Why rob one pocket to put in the other? Why rob individuals in detail, to give to the community as a government, especially when it is very certain that the individuals doubly charged will never get back any part of their money? The United States pay their ocean steamers for all they carry, and that enormously, and to the establishment of oppressive monopolies; why not pay their land steamers fairly and equitably, instead of throwing the burden upon the travelling and the business community? This road is to be a long one, and intended for universal use, and travel and freight upon it should be made as cheap as possible. Besides our own trade and our travel, the trade and travel of Europe with Asia should go upon it. A free road—that is to say, a road which, like the ocean or a river, charges nothing for its use—is the first great step towards cheap transportation; and for the Government to pay like individuals is the second and completing step to that cheapness.

Legislation requisite for establishing the proposed Lines of Communication.

I have mentioned one step taken by Congress at its late session towards the accomplishment of this great object—the appropriation for surveys. I have to mention another which will operate in favor of the Central route—the appropriation for extinguishing Indian titles west of Missouri, and which will free the way from the encumbrance of Indians, and open the land to preëmption settlers. I was in hopes to have been able to have added a third step in its favor, and the most important of all—that of extending the protection of law and government to the whole country between Missouri and the Rocky Mountains, by establishing the new Territory on the Kansas and the Grand Platte, and laying it open to settlement this spring; but the bill failed in the Senate, (after having passed the House of Representatives by more than two to one,) not for want of a majority in the Senate in its favor, nor want of time, but because it was not brought forward in time. The Territorial Committee reported it promptly to the Senate, in company with the additional Oregon Territorial bill; but not being called up until near the close of the session, it fell before the kind of opposition which is then always fatal—that of a threatened debate. It will pass at the next session.

I have to regret that there was no appropriation for the construction of a common road from Missouri to California at this session. I do not mean to regret the loss of a proposition to give land to a company to make and protect such a road; on the contrary, I rejoice at the loss of that proposition. If it had passed, it would have become the prey of jobbers, and would have ended in cheating, oppression, fraud, and monopoly. The way to make the common road is for the Government to do it by an appropriation of money, and leave its support and protection to the working people who would settle upon it under the preëmption system. This common road is now a want and a necessity for our California and Oregon emigration. Forty or fifty thousand go annually from the frontiers of Missouri to these territories, travelling without a tree blazed or a sign-post put up by the Federal Government, exposed to every species of suffering and danger, and now actually marking out the whole way by the graves of the dead. The Federal Government pays millions for ocean steamers to England, France, Germany, Panama—millions for the protection of foreign commerce upon every sea; keeps a squadron upon the coast of Africa for the protection of the negroes from kidnappers; but t does nothing for a common road upon its own territory, from the Mississippi to the Pacific; leaves its citizens to grope their way through the wilderness, guided by the graves of their predecessors, and adding to the number by their own. I will try and do something for this common road next year, and have stages, and horse-mails, and telegraph lines put upon it for use at once, while building the railroad, to which it would be a great help, for they would run together.

Concluding Appeal.

Citizens—it is thirty years since I first began to write and to speak on this subject of American and Asiatic communication, and in favor of a "*North American Road to India*," and then declared, with the confidence which belongs to conviction founded on evidence, that the road would be made "*immediately if aided by the Federal Government: eventually by the progress of events and the force of public opinion, even without that aid.*" The time has come for the fulfilment of that confident prediction. Events have advanced beyond my foresight. Not only Oregon, but all California is ours. We hold seventeen degrees of latitude on the western coast of North America, and have a State and Territory there, great American communities, where the idea was ridiculed when I first came to Congress. Public opinion is now declared—has become universal—and is triumphant. Congress is beginning to move under its stimulus; politicians are putting their shoulders to the wheel.

But what is more than Congress and the politicians, is the PEOPLE and the BUSINESS POWER of the Union. Both these great springs of action are for the road; and not in the West alone, but out to the Atlantic shore; and thus a sense of interest combines with national considerations in stimulating its construction.

Behold the extended and ramified system of railways from the Mississippi to the Atlantic! What is it but an extended fan, the top on the Atlantic coast, the spokes converging to St. Louis; and the road to San Francisco the handle to that fan, in the extension of which every western and every Atlantic road would find its own participation in the splendid commerce of Western America and Eastern Asia!

* * *

Telegraphs along Railroads—indispensable for Business and Safety.

SHARP as we Yankees consider ourselves, the "outside barbarians" are ahead of us in some few particulars. For instance—some of our American railroads yet neglect to supply themselves with Telegraphic facilities for managing the business along their lines; while in France, as well as in England, "*the Telegraph*," according to the report of the celebrated Le Verrier, "is considered an indispensable appendage of *the railroad*."

We are glad to find that the American railroads generally are endeavoring now to secure the Telegraphic facilities which they have long neglected. Projects are now under way for erecting Telegraphs for railroad purposes along most of the principal railroads in the Union. The example of the New-York and Erie Railroad, one of the largest and most powerful companies, is having salutary effect in stimulating other companies to "go and do likewise." Such is the high appreciation in which that company hold the advantages of the Telegraph, that they actually constructed one at their own expense along the whole route, between New-York and Dunkirk, nearly five hundred miles, exclusively for the transaction of their own railroad business; the running of their trains and other important matters being regulated instantly by lightning along their whole line.

The New-York and Erie Railroad Company are so sensible of the advantage of having a Telegraph always at command, that they refuse the profit which might result from transacting Telegraphic business for other parties, and employ a double set of telegraphers, for night as well as day service, for the sole purpose of transmitting orders and information concerning the business of the Railroad Company alone. (As there is *another* Telegraph Line nearly along the whole route, the public do not suffer any damage from this exclusiveness.) As an important illustration of this subject, we republish a circular issued by Mr. Minot, Superintendent of the Railroad Company:

New-York, Oct. 26, 1852.

Hereafter, no messages must be received by any operator for transmission over the Telegraph of this Railroad, unless they are to or from an employee of the Company and upon the business of the Company; excepting, that in case of the sickness or death of any person, or in case search is desired to be made for missing baggage or freight, *paid* messages will be received from those wishing it. It must be clearly understood that messages included in this exception are entirely as a matter of accommodation; that those pertaining to the Company's business must have precedence over them; and that the Company will not be responsible for their delivery.

CHAS. MINOT, *Sup't.*
L. G. TILLOTSON, *Telegraph Sup't.*

☞ In connection with this subject, we may add that the "Committee appointed by the New-York Legislature, to examine and report on the causes of Railroad Accidents, and the means of preventing their recurrence, &c.," have, in their report to the Legislature, republished O'Rielly's circular (which appeared in the first number of this Magazine,) about a *Railway Telegraph System*, indicating the extent to which lightning may be used for regulating the operations of steam on railroads.

British-American Telegraphs—especially the Canadian Lines.

THE increasing attention to Telegraphic enterprise in the Canadas must be gratifying to "the profession" and the community generally, as well as satisfactory to the companies and persons most immediately concerned in the Canadian lines. Extend Telegraphic routes in any direction you choose, in Canada or any other country, and you not only benefit the region through which those extensions are constructed, but add to the facilities, and increase the business and profits of lines previously existing all over the contiguous territories; as you enable the people of Canada to connect and correspond more readily with their friends and business correspondents in the United States, &c.

1. Evidences of this increasing interest in Telegraphic affairs is furnished us in sundry communications from Canada concerning the contents and circulation of the American Telegraph Magazine in that country.

2. In addition to the tribute we have rendered on former occasions to the indefatigable official services of O. S. WOOD, Esq., the Superintendent of the Montreal Telegraph Company's lines, (whose Tariffs were advertised in our last number,) we have now to acknowledge the receipt of orders from him to supply copies of the Magazine to all the Telegraph offices within range of his supervision—which orders are accompanied with the expression of "a hope" on his part, that he "will be able still further to encourage our enterprise."

3. In this connection, we may acknowledge the receipt of another order from J. D. PURKIS, Esq., Superintendent of the "British North American Electric Telegraph Association;" to which order he adds the following remark:—"The Telegraph Magazine supplies a want long felt by all interested in Telegraphic matters; and has my sincere wishes for success."

☞ It will afford us pleasure to hear from the above-named gentlemen, and from any others engaged in their respective lines, concerning any matters wherein this Magazine may be considered useful in disseminating intelligence interesting to the "Telegraphic world in general, and to themselves in particular."

The Talking Telegraph talked about—Difference of Opinion.

Office of "The Magnetic Telegraph Company,"
Philadelphia, March 7th, 1853.

DONALD MANN, Esq., Editor of the Telegraph Magazine.

As your Magazine aims to be the vehicle of facts with reference to our profession, any expression which is liable, even, to convey a false impression should be corrected.

In the January number we notice an extract from the *Tribune*, which comes under this category. The "Talking Telegraph," as you remark, is no new thing. The point we wish to make is, that no increase of speed—no higher degree of accuracy—no economy, except in the saving of paper, (an inconsiderable item, when the advantages of a check upon the transmitting as well as the receiving operator, and the fixing of responsibility where it belongs, are considered,) can be attained by the substitution in question.

The "sounds" are an excellent *auxiliary* to the "signs," and *vice versa;* but the "written evidence," to which you allude in another connection, could not have existed, had not both eyes and ears been in service.

With reference to retrenchment in the number of operators, you are aware that the article is erroneous. On "The Magnetic Telegraph Company's" lines, at least, no operator requires the aid of an amanuensis. As the limit of speed is the facility of the penman, how can it matter whether the eye, the ear, or both are in requisition? OPERATOR.

Telegraph Legislation in Canada.

WE are indebted to the Hon. William Lyon Mackenzie, member of the Canadian Parliament, for a copy of a bill to "amend the act of incorporation of the British North American Electric Telegraph Association."

The proposed amendment, which will doubtless become a law, allows an increase of the capital of the Company, for the purpose of extending their lines from Quebec to Montreal, "along the north shore of the St. Lawrence, or by the eastern townships, as the stockholders may elect, and to the United States boundary, at such places and in such direction as may be chosen by the said Company, and to construct station-houses and observatories at the terminations, and at such other places on the said line and lines of Telegraph, as they may deem expedient."

It is proposed to change the time of the annual meeting for choosing officers from the second Thursday in January to the second Thursday in February.

Another provision is, that it shall be lawful for the said Company to contract debts not exceeding one half of the amount of their capital stock; and all evidences of debts issued by the said Company shall be issued and signed by the President and Treasurer.

☞ We question the expediency of *authorizing* this debt-contracting power. On the contrary, we would earnestly warn all stockholders to watch carefully against the imposition of debts on their companies, in the United States, as well as the Canadas and elsewhere.

By saying this, we mean no disrespect to the officers of the Company above named. Our remark is of general application. We have seen valuable lines sacrificed for comparatively small debts, and then bought up by some of the parties whose operations plunged the concern into the debts for which the lines were thus wrested from the ownership and control of the original stockholders. And we fear that similar schemes are now in process of fulfilment on some highly important routes in the United States. Let stockholders be watchful.

Telegraphic Testimonial to the Memory of Washington.

Binghamton, March 4th, 1852.

To the Editor of the American Telegraph Magazine.

DEAR SIR:—I saw in your Magazine for November last, a hint that the various Telegraph Companies in this country present a block to the Washington Monument, and that they set apart the earnings of their lines on the 22d day of February for that purpose. I have seen nothing since in relation to it.

I did hope that some steps touching the matter would have been taken before this. It is a subject that every American citizen feels a deep interest in: and if nothing has been done about the matter, allow me to suggest that some plan of this kind be adopted—that is to say:—Let some one or more gentlemen of each line in the country be invited to act as a committee to solicit and collect, of each and every practical telegrapher, a sum not exceeding two dollars, for the purpose aforesaid. Yourself, or some other telegrapher, acting as trustee, to whom all subscriptions shall be sent, until such times as a committee can be raised, whose duty it shall be to take charge of the funds collected, and procure a suitable block, with appropriate device, &c.

I feel confident every telegrapher would be very glad to have an opportunity of contributing his mite to so laudable a purpose. I feel assured that a sum sufficient may be raised to get a block second to none, and equal to any one yet presented.

I, for one, although humble, shall feel that it will be the noblest gift of my life to contribute my share (let it be a large or small amount) to so patriotic an enterprise.

I hope to see soon other and abler men take hold of the subject.

Yours magnetically,
G. W. SKINNER.

Extraordinary Electrical Experiments on the Human System.

THE phenomena of electricity are beginning to receive proper attention in the publications of the Medical Faculty, and we trust that the subject will soon receive a far greater degree of consideration than it now receives in the practical duties of the profession. The limited application of electricity indicates what may be realized from it when it becomes more fully identified as a portion of the *Materia Medica.* We quote a suggestive article on this subject from the *Journal of Organic and*

Medical Chemistry, by B. Brown Williams, M. D., as follows:

"The subject of electricity has had a place in the mind of the philosopher, if not the physiologist, since its influence was discovered in the attractive power of the lodestone. Its subtlety, and property of almost infinite expansion, places it beyond the reach of the analyzing power of chemistry. Therefore its difficulty of comprehension is evident, as well as the reason that the most learned have differed materially concerning the part which it plays in nature as well as in man. All the experiments, with the best machinery that could be invented for its special application, have not as yet satisfied many that it is identical with the nervous fluid. When the immortal Franklin reached forth his hand, as it were, and plucked it from the clouds, proving its identity with lightning, no little speculation would have been saved had he proved, also, its identity with the nervous fluid. Late experiments, however, have gone far in this direction; and many are now strongly inclined to give electricity a high place in the economy of human existence, as well as its voltaic influence in animals. The mechanical world presents to us on every hand the power of its forces to produce motion. The chemist acknowledges its primary solvency in his laboratory; the philosopher is disposed to charge to its agency the motion of all worlds. But these do not settle the point of its identity with the nervous fluid. All agree that the nervous fluid fills an indispensable indication in human life. Therefore, as we do not wonder what lightning is, since the experiments of Franklin, neither shall we wonder what that agent is which gives tonicity and strength to the body by its circulation within the nervous system, when its identity with the nervous fluid shall be satisfactorily proved. We hope, therefore, that some bold and daring spirit will understandingly draw additional knowledge from the great storehouse of nature, and present such facts as may have a tendency to relieve the present speculations upon this point.

"This is what the physiologist wants. He wants to be enabled to inform the student what that principle of nature is, which at one moment flushes the cheek, and the next leaves it pale and cadaverous. He says to the student of medicine, Here are the veins and arteries: they are for the purpose of circulating venous and arterial blood; but he cannot, with the present knowledge of physical science, say to him, Here are the nerves in which circulates this or that kind of fluid. Hence, experiments in this direction are imperatively demanded to fill the present indications of medical science. All the different sciences, just at this moment, seem to unbosom themselves to the inspection of man, so that nature has yielded her most active and aërial agent to his mechanical ingenuity, telegraphically and otherwise; and why not electricity open its bosom also, and show by analogy the nature of the true nervous fluid, that the student may know what it is that will coöperate with his prescriptions in the cure of disease, when he shall become a physician? Certainly the office of the nervous system is but little understood, and will remain so until the true doctrine of its nervo-vital stimuli is settled by legitimate experiments. There is a something in this system which plays a vital part, as much in the foot, comparatively, as in the head; as much in the lungs as in the blood-vessels, and as much in the thought as in the secretions of any physical organ. Its authority, whatever it may be, is unquestionable, as it seems thus to claim all the mental as well as physical operations as its own. In nature, electricity is said to be, either positively or negatively, in every atom of matter; and some have gone so far as to say, there is enough in one drop of water, when chemically decomposed, to charge seven hundred thousand Leyden jars, one of which possesses sufficient power to knock a man down. There is a similarity between the presence of the electric fluid in nature, and what is now supposed to be the nervous fluid in man. The one is every where; as much around and in the distant nebulæ of Laplace and Herschel as around and in this globe, the other as much in the circumference of *the being of man* as in the centre.

"Another similarity is the velocity of each. If a man was long enough, so that his head could be in Maine, and his feet in Louisiana, we have every reason to believe that an impression made upon his foot would reach his brain with the quickness of electricity. The impression here would be outstripped only by thought. We might pursue the relative characteristics of each almost *ad infinitum;* but as that would not give satisfactory evidence of its identity with the nervous fluid, we will present for the interest of the reader a series of very interesting experiments which have a strong bearing in this direction. At present, however, we would remark that it is not our purpose to show that the vital stimulus of the nerves is electricity or galvanism, but to call attention to a subject in which we have long been deeply interested. It is a subject, we think, that deserves its legitimate position in physiology as well as philosophy. Notwithstanding it has from the commencement of the world filled the high and important office in nature which learned men seem now to assign it, as well as being present, above, below, around, and in us, yet its discovery, step by step, may be said to be accidental. Convulsions accidentally discovered in the limbs of a dead frog, originally suggested to *Galvani* the study of certain phenomena which, from him, have been styled Galvanic. He ascribed the movements of the dead frog to an electrical fluid, or a power innate in the living frame or capable of being evolved by it, which he denominated animal electricity. This science, however, seems to be indebted to *Volta* for the most brilliant discoveries of its principles. He advanced powerful arguments against the deductions of Galvani. The muscular convulsions and other phenomena in the dead frog he referred to the powers of common electricity, by arrangements previously unthought of by the scientific world. Here, then, we find two scientific minds differing materially about what appears to be a very simple experiment.

"We repeat that it is nothing strange that this difference of opinion should have existed, and even at this day should continue to exist among scientific men, in consequence of its aërified distance from grosser matter. We insert the following from an interesting volume by Dr. Macintosh, which will no doubt be read with interest, as it is physically to the point:

"'The experiments of Dr. Philip, performed in Glasgow, upon the body of a condemned murderer, in November, 1817, led him to declare that galvanism seems capable of performing all the functions of the nervous influence in the animal economy. The subject of these experiments was a middle-sized, athletic, and extremely muscular man, about thirty years of age. He was suspended from the gallows nearly an hour, and made no convulsive struggle after he had dropped. He was brought to the anatomical theatre of our University in about ten minutes after he was cut down. His face had a perfectly natural aspect, being neither livid nor tumefied; and there was no dislocation of the neck. Dr. Jeffray, the distinguished Professor of Anatomy, having on the preceding day requested me to perform the galvanic experiments, I sent to his theatre with this view, next morning, my minor voltaic battery, consisting of 270 pairs of four-inch plates, with wires of communication, and pointed metallic rods with insulating handles for the more commodious application of the electric power. About five minutes before the police officers arrived with the body, the battery was charged with a dilute nitro-sulphuric acid, which speedily brought it into a state of intense action. The dissections were skilfully executed by Mr. Marshal, under the superintendence of the Professor.

"'*Experiment first.*—A large incision was made into the nape of the neck, close behind the occiput. The posterior half of the Atlas vertebra was then removed by bone-forceps, when the spinal marrow was brought into view; a profuse flow of liquid blood rushed from the wound, inundating the floor; a considerable incision was at the same time made in the left hip, through the great gluteal muscle, so as to bring the sciatic nerve into sight, and a small cut was made in the heel; from neither of these did any blood flow. The pointed rod was connected with one end of the spinal marrow, while the other rod was applied to the sciatic nerve; every muscle of the body was immediately agitated with convulsive movements resembling a violent shuddering from cold; the left side was most powerfully convulsed at every renewal of the electrical contact. On moving the second rod from the hip to the heel, the knee being previously bent, the leg was thrown out with such violence as nearly to overturn one of the assistants, who in vain attempted to prevent its extension.

"'*Experiment second.*—The left phrenic nerve was now laid bare at the outer edge of the sterno-thyroideus muscle, from three to four inches above the clavicle; the cutaneous incision having been made by the side of the sterno-cleido-mastoideus. Since this nerve is distributed to the diaphragm, and since it communicates with its head through the eighth pair, it was expected, by transmitting the galvanic power along it, that the respiratory process would be renewed. Accordingly, a small incision having been made under the cartilage of the seventh rib, the point of one insulating rod was brought into contact with the great head of the diaphragm, while the other point was applied to the phrenic nerve in the neck. This muscle, the main agent in respiration, was instantly contracted, but with less force than was expected. Satisfied, from ample experience on the living body, that more powerful effects can be produced, in galvanic excitation, by leaving the extreme communicating rods in close contact with the parts to be operated on, while the electric chain or circuit is completed by running the end of the wires along the top of the plates in the last trough of either pole, the other wire being steadily immersed in the last cell of the opposite pole, I had recourse to this method. The success of it was truly wonderful. Full, nay, laborious breathing instantly commenced. The chest heaved and fell; the belly was protruded and again collapsed with the relaxing and retiring diaphragm. This process was continued without interruption, as long as I continued the electric discharge.

"'In the judgment of many scientific gentlemen who witnessed the scene, this respiratory experiment was perhaps the most striking ever made with a philosophical apparatus. Let it also be remembered that for full half an hour before this period, the body had been well drained of its blood, and the spinal marrow severely lacerated. No pulsation could be perceived, meanwhile, at the heart or wrist; but it may be supposed that but for the evacuation of the blood, the essential stimulus of that organ, this phenomenon might also have occurred.

" '*Experiment third.*--The supra-orbital nerve was laid bare in the forehead, as it issues through the supraciliary foramen in the eyebrow. The one conducting rod being applied to it, and the other to the heel, most extraordinary grimaces were exhibited every time that the electric discharges were made by running the wire in my hand along the edge of the last trough, from the 220th to the 227th pair of plates. Thus, fifty shocks, each greater than the preceding one, were given in two seconds. Every muscle in his countenance was simultaneously thrown into fiendful action; rage, horror, despair, anguish, and ghastly smiles, united their hideous expressions in the murderer's face, surpassing far the wildest representations of a Fuseli or a Kean. At this period, several of the spectators were forced to leave the apartment from terror or sickness, and one gentleman fainted.

" '*Experiment fourth.*—The last galvanic experiment consisted in transmitting the electric power from the spinal marrow to the ulnar nerve as it passes by the internal condyle at the elbow. The fingers now moved nimbly, like those of a violin performer. An assistant, who tried to close the fist, found the hand to open forcibly in spite of his efforts. When the one rod was applied to a slight incision in the tip of the forefinger, it extended instantly; and, from the convulsive agitation of the arm, he seemed to point to the different spectators, some of whom thought he had come to life. About an hour was spent in these operations.

" It would, perhaps, be as well to state, that the positive pole, or wire connected with the zinc end of the battery, was that which was applied to the nerve; and the negative, or that connected with the copper end, was that applied to the muscle. This is a matter of primary importance in conducting such experiments. These, it would seem, should be enough to satisfy any reasonable mind that *electric action is vitally concerned as a moving principle in man.*

" When we couple such experiments, scientific as they are, with the following, they speak their own electro-vital language. Bring parts of a warm-blooded and of a cold-blooded animal into contact—as the nerve and muscle of a frog with the bloody flesh of the neck of a newly slain ox,—and we have produced from their contact, because of the different conditions of each, the most powerful muscular contraction. Such effects as these appear pointed, and seem to force the conclusion that animals depend upon this agent for their vital conditions and movements. Its vital authority in the nervous system, on the part of many has not as yet been acknowledged; but it cannot be denied that physiology as well as philosophy is beginning to unbosom itself for its reception. The main objection, however, to its thorough dominion in the nerves, as of the blood in the veins and arteries, seems to be, that if it be admitted in a physical sense, its claims to the intellectual development of man will also become positive. Whether such objections stand in the way of the *electrical hypothesis* of the nervous system, it is not for us to say; but one thing is clear, that some agent is concerned in conveying impressions to and from the mind; and when the mind is surrounded with emotions of fear, those emotions vitally affect the fluid of the nerves, whatever that fluid may be. If a piece of zinc be applied to the tongue, and be at the same time in contact with a piece of silver which touches any part of the lining of the mouth, nostrils, ears, urethra, or anus, the sensation of taste is felt on the tongue. If the experiment be inverted, by applying the silver to the tongue, the irritation produced by the zinc is not sensible, except in the mouth and the urethra, and is in those instances very slight. If a piece of zinc alone, finely polished, be applied to the ball of the eye, the brightness of the flash seems to correspond with the surface of contact of silver with the tongue, palate, fauces, or cheek. The same will happen when the silver is applied to the eye. We might give other experiments, which prove what they do prove in relation to this agency; but presume enough has been penned at present to prepare the reader to go more freely into the investigation of this interesting subject in future.

" We ask the reader to look at all the experiments carefully—weigh them in their specific effects upon matter—consider the agent which so much astonishes every one, even in making a dead man, during its positive presence, almost rise and walk,—and then ask himself the question, Has the world given to that agent its specific influence in that most interesting and collateral branch of medicine, physiology!"

* * *

Competition in Telegraphing—Monopoly System in Nova Scotia.

There is certainly no one question on which the American people are more decided than on the subject of preventing monopoly in telegraphing. Controversies for several years strikingly illustrate this fact. The attempt of Morse's Patentees, or some of them, to discriminate between dispatches, and to reject some, or give undue preference to others, was indignantly resented by the whole community; and various laws were passed in different States of our Union for punishing any Telegraphers who should refuse to transmit dispatches *impartially* for any and all persons who might offer and pay for them—the transmission of such dispatches to be made in the precise order in which they were handed and paid for transmission.

No portion of the American people acted more decidedly against Telegraphic monopolies in those days than the editors of the "Associated Press" of New-York. Those editors were eloquent in defense of the common right of all persons to an equal participation in the benefits of Telegraphing.

The people, generally, have not changed their views on this important subject, and we have too much respect for the "responsible editors" of the "Associated Press," to believe that their opinions are changed, notwithstanding the occasional appearance now of articles with a different complexion in some of their editorial columns. We cannot believe that, while they have sustained the principle of free competition in *telegraphing all through the United States*, those editors can uphold the exercise of monopoly legislation and monopoly telegraphing in one of the adjoining British Provinces, even though it is stated that some *agents* of the "Associated Press" have obtained *exclusive favors*, to a certain extent, in the transmission of telegraphic intelligence between Europe and America, (which exclusive privileges are mentioned in articles in the October and January numbers of the *American Telegraph Magazine.*)

With this preface, we now insert a Telegraphic dispatch which appeared in all of the "Associated Presses" in New-York, on the 18th of March, and also an article which appeared in the editorial columns of the *Tribune* on the following day, commenting on the intelligence furnished by the aforesaid dispatch.

So far as the "Newfoundland Electric Telegraph Company," or the "Maine Telegraph Company," or any other Company or Companies, are concerned in seeking for or profiting by monopoly legislation or rules of favoritism, their schemes shall meet the same condemnation from us which they will meet from the whole community when the true state of the case is properly understood. We cannot see—and the public will probably fail to see—why the monopoly doctrine should be favored by Americans on the *British* side of the frontier, when *that* doctrine on *this* side of the frontier is utterly condemned by the editors of the Associated Press, and all others among their countrymen. We do not believe the *Associated Editors* ask for or desire any *monopoly*, no matter what some of their *agents* may want or assert.

The character of the Telegraph enterprise demands that its wires should be opened *impartially* to all who think proper to pay for the use of them, in the order in which the dispatches are offered and paid for, across the British-American Provinces as well as in the United States. And we cannot wrong the intelligence and correct feeling of "the people" of Nova Scotia or Newfoundland, by crediting any assertions to the effect that the "public sentiment" in those Provinces *approves* of any Telegraph monopoly schemes, no matter how patiently "the people" may for a while *endure* those schemes. Why not adopt *general laws* in those Provinces, such as exist in many of these States, under which laws all persons who choose to construct Telegraph lines might organize companies and obtain right of way for the purpose?

Extract above alluded to.

OPPOSITION TELEGRAPH IN NOVA SCOTIA.

Halifax, March 17th, 1853.—The attempt to obtain a charter from the Provincial Parliament for an opposition Telegraph line from Halifax to the boundary of New-Brunswick, met with a signal failure to-day by a vote of 67 to 16. The applicants for the charter vainly endeavored to excite a prejudice against the present Telegraph Company, of which the Hon. S. Cunard is President, on the ground of its alleged partiality to the New-York Associated Press. And the decision may be regarded as a fair expression of public sentiment in favor of the policy and justice of the existing arrangement between the Halifax line and the Associated Press relative to the transmission of the steamers' news.

Comment from *New-York Tribune.*

The Nova Scotia House of Assembly have defeated, by a vote of 67 to 16, a bill chartering an Opposition Telegraph Company across that Province. This Act probably seals the fate of the Submarine Telegraph from Newfoundland. The object of the projectors of that line was to get this charter, with a view to an exclusive line from St. John, Newfoundland, into the United States. This refusal of the Nova Scotia Legislature to grant them a charter, quashes for the present their efforts, and we presume will arrest the construction of the submarine portion of the line. The enterprise was started by and is in the hands of a man who was formerly connected with the regular line from Halifax, and has been pushed quite as much from a spirit of opposition to that line as from any other motive. If the submarine line from Newfoundland can only be used to bring grist to the mill of the line which it was really intended to rival, we take it that it will not be constructed, at least by its original projectors.

Condemnation of "Discreditable Tricks" played off upon the Telegraph, the Press, and the Public.

A CORRESPONDENT, who styles himself "A Constant Reader of the *Times*," and who says he has read carefully several articles in former numbers of this Magazine concerning the relations between "the Telegraph, the Press, and the Public," transmits us an editorial article from his file of the *Times*, for the purpose of illustrating his belief, that the Editor of that journal will be among the first to condemn any and all "monopolizing schemes" and "disgraceful and injurious tricks" that may be planned or attempted by any agents, claiming to belong to the Associated Press or any other presses, in connection with the fair and impartial transmission of Telegraphic dispatches.

We concur with our correspondent in the faith he expresses respecting the Editor of the *Times;* and we go farther than that correspondent, by expressing our confidence that no one of the "responsible editors of the Associated Press" would sanction or connive at any of the practices reprobated in the above-mentioned articles about "the Telegraph, the Press, and the Public."

The readers of the *Telegraph Magazine* will find abundant proof in its pages that we are not the apologists of any monopolies or malpractices on the part of any Telegraph Companies or Telegraph officers. Error and crime in the Telegraph system will continue to be reprobated by us, as they have been reprobated by us, regardless of the abuse with which we are assailed by persons connected with the lines upon which the rogueries are perpetrated. Whenever the Telegraph encroaches on the rights or property of the press or the public, (and the property of the press was shamefully plundered in the specified cases, by the exposure and sale of information that should have been held sacred by the Telegraphers to whom that information was intrusted for transmission,) the "AMERICAN TELEGRAPH MAGAZINE" will hereafter prove, as it has thus far proved, true to its original purpose of rendering "equal and exact justice to all" within range of its professional censorship.

Our censures are bestowed with impartiality upon the offending parties, whether those parties are connected with the *Telegraph* or the *Press*. And we will persevere in this independent course, with the conviction that while thus discharging our duty, we will ultimately and ere long see the Telegraph System so well matured in its relations with the public and the press, as to render less frequent the complaints which should now arouse the attention of all "Telegraph Stockholders," and all "responsible editors of the Associated Press."

With this preface, we comply with the wishes of our correspondent by giving place to the article from the "*Times*," in the hope that the editor who thus indignantly expresses himself will patiently investigate the subject, for the purpose of throwing his aid in favor of any plan that may seem calculated to remedy the complaints now frequently made concerning the Telegraphic System in its present ill-digested relations with the press and the public.

THE INSIDERS AND OUTSIDERS OF THE PRESS.

[From the New York Times.]

THE *modus* of the late news hoax seems to be pretty well understood. A portion of the press in this city and in Boston receive news regularly by telegraph from Halifax, and pay for it a very large sum. *Another* portion of the press do not pay for it, and of course do not receive it. They have, however, on several occasions got it in some way—clandestinely, as it is natural to suppose. It seems that when the *America* reached Halifax, the fact was announced; and some one fabricated a dispatch, which was sent to all the Boston papers entitled to receive it, announcing the assassination of Louis Napoleon, &c. Before they went to press these papers were notified that it was untrue, and of course did not publish it. But the *other* journals did publish it—showing conclusively that they obtained it clandestinely, and without taking sufficient precautions to be sure that they were pilfering the genuine article.

So far as these papers are concerned, they were served entirely right by the trick; for although property in *news* is not protected by law, it is just as dishonest to steal it as to steal the money which bought it. But such a hoax, even for such an object, inflicts serious wrong on the whole community, and tends to lower the character of the entire newspaper press. Thousands of dollars may have been lost to persons who placed credit in the news; and it is not a sufficient plea to say, that they ought not to have put faith in those particular papers which published it. Nor will they or the public limit the responsibility of thus tampering with business interests strictly to the journals by which the fabricated news was published. If the conductors of the *best* portion of the press *can so far forget the responsibilities and duties of their profession* as to menace hundreds of innocent persons with loss and ruin, *for the mere purpose of punishing a dishonest rival*, the community will have *little confidence in newspaper character*. We should feel chagrined if we had reason to suppose that agents of the News Association with which the *Times* is connected had any share in so discreditable and injurious a trick."

[*Note by Ed. Tel. Mag.*]

The records of the Telegraph lines should be able to furnish the testimony requisite to satisfy aggrieved parties, and to convict the culprits guilty of the "discreditable and injurious tricks."

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More "Submarine" Reports—Amphibious Telegraphing.

Among the floating paragraphs that are now "going the rounds" of the European and American journals, the following account of a notable "submarine project" is deserving of peculiar attention from all the gullible portion of the world in general, "and the rest of mankind:"—

"Proposed Telegraph between Great Britain and the United States.—A project has been formed for constructing a submarine telegraph between Great Britain and the United States. It is proposed to commence at the most northwardly point of Scotland, run thence by short water lines to the Shetland and Faroe Islands. Thence, a water line of 200 or 300 miles conducts the telegraph to Iceland; from the western coast of *Iceland* another submarine line conveys it to Kioge Bay, on the eastern coast of *Greenland;* it then crosses Greenland to Juliana's Hope, on the western coast of the continent, in 60 deg. 42 min., and it is conducted thence by a water line of about 50 miles, across Davis's Straits to Byron's Bay, on the coast of Labrador, in America. From this point the line is to be extended to Quebec. The entire length of the line is approximately estimated at 2500 miles, and the submarine portions of it are from 1400 to 1600 miles. The *peculiar advantage* of the line being divided into *submarine* portions is, that, *if* a fracture should *at any time* occur, the defective part could be *very readily discovered*, and *repaired promptly* and at a comparatively *trifling* expense."

☞ The facility with which the projectors *speak* of repairing "fractures" (if any "fractures" should ever occur!) along this vast route by land and water, amid icebergs and frozen wildernesses, is, like the temperature of the northern regions, decidedly "cool."

Telegraphers who wish a job in working way stations or repairing lines, should forthwith make application to the ingenious projectors of this amphibious line. It is, of course, needless to add, that the Telegraphers required for performing these delightful duties must be "half horse and half alligator," with a "cross" of the Esquimaux and Polar bear.

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Submarine Telegraphs—in Europe and America.

☞ There is a submarine telegraph in operation on this Western Continent of some hundred and forty miles length. It connects Nova Scotia to Newfoundland, at Sackville. The telegraph from France to England is not one fifth its length, yet this has not caused half the noise with which the astounded world greeted that.—*New-York Times.*

☞ The reason no noise has been made about it is, that the first foot of it has never been laid.—*New-York Tribune.*

Remarks of the American Telegraph Magazine.

The *Tribune* is not quite, though rather nearly accurate, in the correction it has sought to make.

The fact of the case seems to be, that a submarine section of ten or twelve miles has been laid under the strait between Prince Edward Island and the main land—which short section is intended as a portion of the "one hundred and forty miles of submarine Telegraph" which is designed to connect Newfoundland with the American continent, under the arrangements of the "Newfoundland Electric Telegraph Company;" a company chartered by the Newfoundland Legislature, and of which Mr. Tebbetts, of New-York, and Mr. Gisborne, of Nova Scotia, are the prominent officers.

The remaining one hundred and thirty (130) miles of the submarine portion of this line, across the Gulf of St. Lawrence, is the "great feat" *yet* to be performed.

When we obtain further particulars of the *progress* of the undertaking commenced by the "Newfoundland Electric Telegraph Company," we will add them to the statements already made in this Magazine upon the same subject.

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A fallen Agent—Conviction for Forgery, &c.

Dispatches in the newspapers state that Mr. Trowbridge, who was formerly a clerk or receiver on the "People's Line" at Louisville, has been convicted of forgery at St. Louis, and sentenced to expiate his crime by an imprisonment of three years in the Penitentiary. Mr. T. once stood high in the estimation of many acquaintances; and his fall, under such a charge, may well "point a moral" for the guidance of society.

The nature of Trowbridge's forgeries is not stated; but, in reply to some inquiries, we may add that we do not believe they had any relation to the "forged dispatches" which are said to have been made and payment therefor collected at St. Louis, as stated in this Magazine under authority from the lady and gentleman who were victims of the alleged telegraphic forgeries.

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Forgery by Telegraph.

A Boston merchant received a telegraphic dispatch from Portland, on Monday of last week, requesting him to send $400 by Longley's express, to the order of a Portland gentleman with whom it seems he had dealings. He was about to send the money, but finally concluded to carry it in person, and did so, and found, on his arrival at Portland, that the dispatch was a trick.—*N. Y. Paper.*

Remarks of Telegraph Magazine.

The Telegraph presents great facilities to rascals for accomplishing operations like the one noticed above.

That it has not been more extensively employed for such purposes, is attributable entirely to a " lack of knowledge " of its practice of sending *any communication, however much money or property it may affect, for any person, with whatever name may be affixed to it,* without knowing or inquiring whether the signature is genuine or forged.

The Legislature will yet make it obligatory on Telegraph Companies to *know* that the signatures attached to messages, where it is apparent that they affect the payment of money or transfer of property, are *genuine*, under penalty of responsibility for whatever loss may grow out of forged dispatches.

Honorable Testimonial.

It affords us pleasure to give space, under this caption, for an expression of good feeling on the part of various Telegraphers towards one of their immediate associates, on occasion of his "movement" to Havana, for the purpose of showing the Cubans some of the wonders of Telegraphing. It rejoices us to see "the profession" thus rendering credit where it is considered to be deserved by any of their associates. It is one efficient mode of helping to elevate that "profession" in the opinion of the public, as well as in the esteem of its own members. The testimonial speaks for itself—and here it is:—

House Printing Telegraph.

January 24th, 1853.

H. C. Skinner, Esq.

Esteemed Friend: — The announcement that to-morrow terminates the business connections and associations between yourself and us, has been received with emotions of profound sorrow and regret. We feel that, in parting with you, we lose a brother and a friend, and our line one of its ablest operators. The vacancy in the business department MAY be filled; but the void in our hearts will long be felt. Although we say farewell reluctantly, we do it with less regret, trusting the change will prove beneficial to you, and knowing that wherever duty calls, you will not fail to find those who will be firm friends.

Hoping the "magnetic attraction" of a circle of old friends will call forth frequent "communications" from you, we "REGULATE" our feelings to the will of Providence. "Renewing" our expressions of regret at "breaking our connections" with you, we trust you to the "batteries" of bright eyes of the Spanish maidens. Hoping you may never find yourself "crossed" in any affairs with them, and that you may soon be blessed with the "local attractions" of a wife and family, we remain, Sincerely yours, &c.,

A. B. Talcott, C. Westbrook, W. B. Walworth, Washington. William Burgess, Benjamin Patrick, Baltimore. W. J. Phillips, J. C. Hinchman, H. W. Carr, J. P. Filer, Philadelphia. N. P. Buckley, Wilmington. W. O. Lewis, J. G. Dickinson, W. W. Alexander, New-York.

Patent Questions—connected with the Telegraph and otherwise.

The great India-Rubber case, in which Horace H. Day has been for years distinguished, has at least *one* peculiar feature in common with the Telegraph controversy—and that is, the denial of jury trial for deciding contested questions prior to the issuing of perpetual injunctions. The injunctions against Mr. Day in the United States Court in New-Jersey, and the injunction against Mr. O'Rielly in Kentucky, are said to be unprecedented in this respect in the jurisprudence of America and England.

With a view of preventing a recurrence of what is alleged to be an extraordinary stretch of judicial power, Mr. Day has united with Mr. O'Rielly in invoking public attention to the subject; and the following memorial to Congress is the first movement in furtherance of their purpose. It would seem, from this showing, that the whole community have an interest in these matters, although few or none may ever *feel* the evils so severely as those gentlemen have been compelled to suffer them, under the extraordinary decisions of certain judges in the States above mentioned.

Right of Trial by Jury.

Memorial of Horace H. Day and Henry O'Rielly, praying for a Declaratory Law which shall protect the right of Trial by Jury before the issuing of Perpetual Injunctions in cases of Patent Rights, where the Novelty or Legality is denied.

To the Honorable the Senate and House of Representatives in Congress assembled:

1. Your memorialists respectfully represent, that a Circuit Court of the United States, *sitting in equity,* has actually declared its *right,* and has exercised the *power* of granting a *perpetual* injunction in the matter of patent rights, where the novelty and legality were denied, before such legality and novelty had been established *at law*—thereby deny-

ing to your petitioners their constitutional right of "Trial by Jury."

2. Your memorialists insist that the United States Circuit Courts have no legal authority, before the rights of the parties have been settled *at law*, to adjudicate upon that question *in equity*, as the rights of patentees are "legal," and not merely "equitable;" and that the equitable jurisdiction is merely ancillary, to protect the rights of parties while in litigation at law, and to enforce them when established.

3. Your petitioners respectfully ask the attention of the National Legislature to this attack upon civil liberty, the guaranteed right of freemen under the Constitution; and they respectfully suggest the propriety of the passage of a declaratory act to prevent such unlawful exercise of power from being established as a precedent.

And your memorialists will ever pray, &c.

HORACE H. DAY.
HENRY O'RIELLY.

WASHINGTON CITY, *February* 18, 1853.

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The "Serious Charges" Once More.

Telegraphic News Robberies and their Perpetrators, &c.

The reader, familiar with the articles on these subjects, published in former numbers, and especially in the January number of the *American Telegraph Magazine*, should give careful perusal to the following letter from "Mr. Allan Robinett, Committee of the Atlantic and Ohio Telegraph"—which report comes to us with some interlineations in the handwriting of Mr. James D. Reid, Superintendent of that line, indicating that Mr. Robinett's letter, if not wholly composed by Mr. Reid, was at least written under his inspection.

[Letter from Mr. Robinett.]

PHILADELPHIA, March 11, 1853.

Editor of the American Telegraph Magazine:—

(1.) Sir:—Various circumstances have prevented my attention to the duty imposed upon me by the Board of the Atlantic and Ohio Telegraph Company, in the examination of charges made against it in your *Magazine* for December. I now proceed to do so.

(2.) Before doing so, however, I may be permitted to complain, that while our Board, in great courtesy to you as a professed guardian of Telegraph interests, appointed me to act with you in the careful investigation of a matter in which our honor as a Company was apparently concerned, and in reference to the course of our Superintendent, whose long connection with Telegraph Lines entitled him to onr courteous consideration, you have, in your January number, presented the case anew to the public, with strictures so violent as could only have been justified after our investigation had been perfected.

(3.) Waiving, however, all obstacles of this nature, I have now before me the papers furnished me by Mr. Reid, and, as these seem to be sufficient for my guidance in the case, I defer the reference to a third party until made more clearly necessary.

(4.) In none of the communications either to you or to our Board can I perceive that any evasion of the facts has been attempted. On the contrary, it is admitted that a dispatch, proceeding to Mr. Jones, then Agent of the Associated Press of New-York, containing news from Mexico, was used in the compilation of a message by an operator employed by us at Pittsburg, which he addressed to Mr. Johnson, News Agent at Philadelphia. We have the further proof of a disgraceful conversation held upon our line between that operator and Mr. Johnson, in which the latter agreed to pay the former ten dollars per month for collecting items of news, at first intended to be local, but which the former proposed in the most reprehensible manner to extend to foreign items, procurable from other press reports going to other parties. Mr. Reid asked investigation only of his course in reference to these facts when known to him.

(5.) When this bargain was made, it was late in the evening, after the business of the day had closed; George McLaih at Pittsburgh being the offending party and author of the "evidence" you state to be in your possession, and which McLain acknowledges to be correct; Mr. McGonegle was the operator at Philadelphia who responded for Mr. Johnson, the News Agent, who was present dictating replies.

(6.) Mr. Bailey was in the office at New-York, and obtained the conversation by taking it from the machinery, as it proceeded from either party. In doing so, he has no doubt done this Company great service; but the act of doing so illustrates the position of the parties. Our rules strictly forbid all inspection of passing dispatches by offices to which it is not proceeding. This is also forbidden in reference to conversation between operators, as a breach of good faith and gentlemanly behavior. In this evidence is explained to me the cause of the soubriquet of "Uriah Heep," by which Mr. Bailey came to be known. Two letters from Mr. Bailey to Mr. Reid are before me, in which he states that his sole reason for pressing the publication of these matters is in revenge upon McLain, and because Mr. Reid gave his successor a larger salary than had been given to him while under his appointment. These letters are deeply disgraceful to him as a man. For the facts, however, in our possession, above alluded to, he has the thanks of the Company.

(7.) The first intimation of these matters was derived from Mr. C. T. Smith in a letter to Mr. Reid while in Tennessee, which gave no facts, but intimated that some wrong was being perpetrated on the line, which required his attention. The first direct testimony given to Mr. Reid was by Mr. E. F. Barnes, of Philadelphia, to whom either Mr. Smith or Bailey had communicated the facts. Mr. Bailey also, in one of his letters to Mr. Reid, testifies to the extraordinary fact, that the information was given to Henry O'Rielly, Don. Mann, B. O'Conner, W. J. Delano, E. F. Barnes, and others, *all of whom, outside parties, knew the details before they were known to Mr. Reid or this Board!* This perfidy to our interests shows a deep error on Mr. Reid's part in the appointment of such agents. It was Mr. Smith's duty to have communicated fully the facts to Mr. Reid at once, or to this Board, if the Superintendent was not accessible. Mr. Reid denies having received any such communication from Mr. Smith, and our Board received none until after Mr. Smith's removal from our employ. A copy of the "conversation" was given to Mr. Reid by Mr. Bailey, some time after these circumstances transpired.

(8.) It is stated by you that you were *informed* that Mr. Reid had refused to take notice of the charges made by Messrs. Smith and Bailey, and that the Board discharged the parties implicated.

(9.) This statement is wholly incorrect and injurious. Three persons were engaged by Mr. Reid on his first arrival at Pittsburgh after knowing the facts, for most of one day investigating the records of the month in which the stolen dispatches occurred, that no doubt might exist as to the guilt of the parties. To one dispatch only did he trace certain evidence of guilt, and which was compiled by McLain as before stated. McLain was then on a visit to Philadelphia. A copy of the dispatch sent to him by Mr. Reid is before me.

(10.) "PITTSBURG, July 2, 1851.

"GEORGE MCLAIN, Philadelphia:

"Having examined as carefully as possible the charges made against you, I have proof that you have been guilty of introducing the substance of a dispatch to the New-York Press from New-Orleans into a message to Mr. Johnson, of Philadelphia, compiled by you as his agent. For an offense so deeply injurious to the parties in New-York, and so offensive to our rules and the sacred character of our business, I am obliged, not only to dismiss you from the employment of the Company, but to deny you the courtesy given to operators, in having access to any of our offices.

"J. D. REID, Sup't."

(11.) Mr. Reid was appealed to against this severity, but the order was strictly enforced, as may be proven, and remained so for over two months thereafter. When he was restored, it was through the intercession of a Director who had known him from childhood, and who was satisfied that in what was done by McLain he had intended no injury to any party, but the matter being respecting public news, he was unconscious of the magnitude of his offense. McLain was a young man, formerly one of the Messenger Boys, who, showing an aptitude at the operating-table, was encouraged and advanced. On his restoration he applied himself to his duties with renewed activity, was remarkable for his perception of sound, exceedingly quick in operating, and gave promise of much future usefulness. On the publication of your article, however, he resigned, and is not now in our employ.

(12.) At this time Mr. McGonegle was in New-York, at which place he received Mr. Reid's discharge. Upon his complaining of the severity shown him, and that he could prove himself innocent of the charges for which he was dismissed, Mr. Reid requested H. O'Rielly, then acting under Mr. Reid's appointment as Receiver, to take him before a magistrate to testify to certain questions propounded to him. His affidavit is before me. Mr. McGonegle sends me the following letter:

(13.) NEW-YORK, Monday, July 7th, 1851.

"J. D. Reid, Esq., Superintendent:

"We exonerate J. T. McGonegle of all participation in this matter, and have full belief in his declaration. Such dispatches as may have appeared through the reports of Johnson, of Philadelphia, and not originally intended for him, we believe, must have so occurred without *his* knowledge; and we further believe he could not have been cognizant of their being intended for other than those he may have caused them to be delivered to. With this belief, we heartily acquiesce in his restoration, satisfied that the confidence of the Company is safe with him; *for all which we refer you to his affidavit respecting the facts.* (Signed) HENRY O'RIELLY.

A. JONES,*

CHARLES T. SMITH.

The words in *italics* are in the handwriting of Mr. O'Rielly—the rest being in that of Mr. Smith.

(14.) To my mind this letter is conclusive that Mr. Reid did his duty to the Company for whom he acted; and his whole course, as known to me in this and other duties on our behalf, has been such as to strengthen his hold upon the confidence of our Board.

(15.) I neglected to state, that Mr. Smith's letter to our Treasurer was never acted upon by us further than to refer it to the Superintendent; and that *the Board* have *at no time*

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* Reporter for Associated Press at that time.

requested or made dismissals or appointments on the line. ALLAN ROBINETT, Committee.

Remarks by the Editor of the American Telegraph Magazine.

OUR readers will remember that the "serious charge" made by us against the management of the "Atlantic and Ohio" Telegraph Line was—that certain persons who had been *dismissed* from responsible positions on that line because they had violated the confidence reposed in them, by *purloining* and *selling* the contents of *private* dispatches, were again employed in the same positions from which they had been discharged, and by the *same* Superintendent or Board of Directors that dismissed them for the gross offense aforesaid. Now we knew that various lines had had the misfortune of employing men who would disgrace themselves and bring the Telegraph business, as far as their influence was effectual, into public contempt. But, so far as our knowledge then went, or yet goes, the "Atlantic and Ohio" was the first line to set the bad example of retaining persons detected in such practices in charge of important offices, through which the confidential communications of the public have to pass. The case seemed to us an extraordinary one, and we commented upon it as we thought and still think it deserved.

In the second paragraph of the foregoing communication, Mr. Robinett complains that we should have made any further remarks on this matter, after a committee had been appointed to investigate it, until that committee should have reported on the truth of the charges against the management of the line, which were of a "character too serious to be passed without investigation." Now we doubt not that Mr. R., on a little reflection, will see that it would have been inexpedient for us to have delayed any notice of this affair, which it might otherwise have been proper to have made, on account of the labors of *the investigating committee*, for the reason that there seemed to be nothing for that committee to *investigate;* the TRUTH of the "serious charge" being admitted on all hands. What appeared to be particularly required in this matter of the A. and O. Company, was EXPLANATION, not investigation. Mr. Robinett chooses to consider our strictures on this affair as unjustifiably violent, but he does not see fit to point to any indecorous expressions; and, if he would glance at our several articles again, he would observe that all our strictures were aimed at the *practice* that some Telegraph people had of pilfering private dispatches, and the practice that some *others* had of sustaining the former; and not at individuals, except in so far as they were connected with the said practices. If he should still consider our remarks too violent, we have no other apology to make for them, and can only say that it is at least as proper for us to denounce with some degree of emphasis the malpractices of persons whose conduct he seeks, if not to justify, at least to extenuate, as it is for him to endeavor, by an untrue statement, to bring odium upon Mr. Bailey, a gentleman whose character has never been assailed, except by the persons connected with the news-robbery conspiracy and their apologists.

In the third paragraph Mr. R. seems to conclude that a reference or investigation is not at present necessary. Why should an "*investigation*" be talked of, when the only thing charged is admitted to be true?

In regard to the fourth paragraph of the foregoing communication, it is sufficient to refer to the letter of Mr. Reid to the Board, and their letter to us, published in the January number of the *Telegraph Magazine*, which certainly would *not* indicate that they had any information touching the matter in question. Perhaps this was no "evasion of the facts." We never said that it was; but we did say, and still say, that they appeared in those communications as *searchers* for information that had long been in their possession.

The fifth paragraph we notice only to correct a misstatement, where it says that we said certain evidence was in our possession. We made no such statement.

The sixth paragraph of Mr. Robinett's letter is devoted to an indecorous and malicious assault on Mr. Bailey. Mr. R. asserts that Mr. Bailey came into possession of the plans of the "news conspirators" by a "breach of good faith and gentlemanly behavior," and that he by so doing secured to himself the *soubriquet* of "Uriah Heep;" all of which, *if true*, would not be particularly appropriate or dignified in the representative of the Board of Directors of an important Telegraph Company. But the thing is UNTRUE; untrue in whole and in part. It was *not* Mr. Bailey that committed the sin of exposing the "message-stealing conspiracy," and Mr. Robinett should have directed his wanton and gratuitous ire at some other head. Mr. R. states that he has two letters written by Mr. Bailey in his possession, in which he (Bailey) says that his only reason for pressing the publication of the affair was in revenge upon McLain, and that both the letters are deeply disgraceful to Mr. B. We shall certainly feel compelled to believe this statement of Mr. R.'s to be as untrue as the former one until we see some evidence of its correctness. That two letters written by Bailey are in Robinet's hands we do not doubt. But we are very certain that they are not of the character intimated by Mr. R. Mr. Bailey has resided in New-York for a considerable time; he is well known to the business community, holds a highly responsible position, and in all the attributes that go to make up an honorable man and a gentleman, he is (and we say it with all proper respect) the equal of Mr. Robinett, and he cannot be much injured by such attacks as the one just noticed.

The 7th paragraph of the foregoing communication is chiefly devoted to an assault on Mr. Charles T. Smith, a gentleman whom, we doubt not, is entirely competent to justify whatever course he has taken in this matter. But inasmuch as it is not of the slightest consequence to the matter at issue whether the course of Mr. S. was proper or improper, we pass without further remark to the 8th paragraph, which recites a statement of ours, made in a former article, correctly. But the 9th paragraph asserts *untruly* that our statement was "incorrect and injurious." We said that we "were *informed*," &c., giving the names of our informants. This *statement* was true.

The 10th paragraph contains Mr. Reid's letter, discharging McLain "*for an offense so deeply injurious to the parties in New-York, and so offensive to our rules and sacred character of our business.*" Mr. Reid seems, at that time, to have had a very correct appreciation of such offenses, even closing the doors of all the offices on the line against the offenders.

The 11th paragraph intimates that Mr. McL. was restored to his former position because it was believed that he did not *know that there was any particular harm* in the offense which Mr. Reid characterizes as "deeply injurious to the parties in New-York, and offensive to the sacred character of the Telegraph business." Where ignorance is *profitable*, it may be folly to be wise. Still this case sufficiently illustrates that *ignorance* is not one of the best qualifications for a Telegraph Operator, especially if, as we are informed, the same person had been several times discharged from the line.

The 12th and 13th paragraphs refer to Mr. McGonegle, and contain a statement made by Mr. O'Rielly, Mr. Jones, and Mr. Smith, to the effect, that they believed Mr. McG. had no improper connection with the "News Conspiracy"—*McGonegle having previously made affidavit that he had not, and they referring to that affidavit as the ground of their belief in his integrity.* Mr. McGonegle's character was then, as we suppose it is now, unimpeachable, and we are not in the least surprised that O'Rielly, Jones, and Smith should credit his oath, and believe in his integrity. But admitting, as we do, just as fully as Mr. Robinett does, that Mr. McGonegle's conduct was correct, we do not see how it in any way justifies the retention by Mr. Reid of persons in important positions, whose conduct was admitted to be incorrect and improper. His doing so may have, for aught we know, (as Mr. Robinett says it has,) "strengthened his hold on the confidence of our Board." But that only renders the matter more inexplicable still to those who look upon the Telegraph business as of too confidential a character to be subjected to the control of persons too ignorant or too dishonest to appreciate its nature.

Any one, on reading Mr. Robinett's communication, will observe that it is mainly devoted to matters impertinent to the charge made by us against the management of the Atlantic and Ohio line in this particular case. Assaults, covert or open, upon the characters of Bailey and Smith might, in a controversy with those gentlemen, be all very well, but they are not to the point in this case; and if it is true, as stated by Mr. Reid, that the charge made by us was a serious one—and it being admitted on all hands that the charge was *true*—it seems to us that Mr. Robinett should have favored the public with a more satisfactory explanation of the matter than he has presented.

Mr. Robinett says, in his concluding paragraph, "*That the Board have at no time requested or made dismissals or appointments on the line.*"

Mr. Reid writes us, on the 10th of Dec., 1852, in reference to this matter, after we had twice noticed it, as follows: After some lines complimentary to us, he says: "For the satisfaction of parties, however, who may not know all the circumstances, I add as follows: The bargain between the Operators and the ex-Reporter was utterly unknown to me until information of it reached me from New York, when I at once took the most energetic measures to fasten the guilt on the right parties by the examination of our files, *dismissing, upon the most* AMPLE EVIDENCE, *both parties* from the employ of the Company, as you most correctly stated."

Mr. Reid goes on to say that one of the culprits had but recently been married, and that he had ever before seemed to be honorable and faithful; and that he, Reid, under a conviction of his deep penitence for his fault, advised him to *present himself to the Board*, and request to be restored. He then says: "The *Board* DID RESTORE *both the offending parties*, upon the pledge of their greater care thereafter to refrain from every thing not clearly required of them by the Superintendent."

Mr. Robinett says that the *Board never made or requested* any removals or appointments. Mr. Reid says, that the Board *did appoint* these very "News Operators" to offices on the line from which *he* had dismissed them "on the *most ample evidence*" *of their guilt.*

One of these statements must be *untrue.* Perhaps the "Investigating Committee" will tell us *which* is correct.

The public have looked with a lenient eye upon the Telegraph business. Full allowance has been made for the difficulties which beset a new and rapidly-extended enterprise. But there is one thing that the community will insist on, viz: That, when Telegraph Directors and Superintendents *talk* of the "sacred character of the Telegraph business," they shall *act* in accordance with their words. It would be a wiser policy in any Company to secure and retain the services of men above reproach, than to retain Operators in responsible offices who had grossly outraged honor, honesty, and decency, and, while retaining *them*, endeavoring to blacken the characters of those who accidentally discovered the malpractices of the persons last referred to.

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Mr. Bailey's Reply to Messrs. Reid & Robinett.

The following communication was handed to us by Mr. Bailey, Chief-Telegrapher, in New-York, of the New-Orleans Coast-Line Telegraph, we having shown to him Mr. Robinett's communication to us, in which he, Mr. Bailey, was mentioned in a way designed to be injurious to him:

Bailey's reply to the assertions of Reid and Robinett.

Donald Mann, Esq., *Editor Telegraph Magazine.*

I stand in this matter merely as an accidental witness; and in that capacity, this *dignified* committee have thought proper to attack me. I reply briefly as follows:

It is *false* that I received that conversation from the instrument. It is *false* that I had it in possession until more than a week subsequent. It was then given me by Mr. Smith, to keep for him. It has remained in my possession ever since.

It is another *falsehood* that I remained in the office, through the motives attributed to me. It occurred as follows:

Business being over, Dr. Jones came into the office to inquire about dispatches. A conversation ensuing, we remained. But a few minutes elapsed until Mr. Smith, who was sitting close to the instrument, hearing some one write, "let it run." I was outside at the time, had on my top-coat to go away, but remained to converse with Jones, and *I didn't even know what was going on until all was over.* Mr. Smith then requested me to stay, and he read the following:

"G." signal for Pittsburgh—"P." for Philadelphia.

G. to P.—"Is J——n there?"

P. to. G.—"Yes."

G. to P.—"Tell J——n that I will send him all news except that which comes from Smith, and will always give you that in a *sly way.* What permanent arrangement can he make?"

P. to G.—"He says he will give you ten dollars a month."

G. to P.—"Is that all?"

P. to G.—"He says, when any thing of real importance, he will pay accordingly."

G. to P.—"Well, then, I agree to it; will never be behindhand in any thing,* you can be assured; and when any one inquires about it, tell them *you have reporters there.* Eh?"

P. to G.—"*When you get hold of any dispatches you are afraid of,* just say word, and he will *change color a little*, and give credit to *Morse* Line."

G. to P.—"In that case we will always head it J——n Extra."

P. to G. —"Just so! Now, when do you go to work? If you do it O. K., he will do the right thing by you."

G. to P.—"I I—O. K." [meaning, Ay, ay, all correct.]

P. to G.—"He says, if you do it up *brown*, you will not grumble for pay. But how about J. D. R?" [James D. Reid, the Superintendent.]

G. to P.—"We will have to risk that; don't think he would say much, from what he said to Beisel."

P. to G.—"I I—O. K.—squirt 'em along then."

G. to P.—"We have sent you *all we can scrape up to-day*—will keep it up. '73,' [telegraph. signal for 'best respects,'] to you and Johnson."

P. to G.—"Same to you. He says, 'take whiskey on it.' Good-night."

G. to P.—"I I—O. K. Good-night."

Such was the bargain, and as such carried out. I recollect Mr. Cummings, the Treasurer, coming to New-York a few days afterwards, and I heard Mr. Smith call his attention to what had occurred. By the latter's orders, I wrote a copy for Mr. Cummings. He remarked, that he had himself seen the stolen news in Philadelphia papers. I also wrote a copy, by Mr. Smith's orders, for Mr. Barnes, an old Telegrapher, and a shareholder in the southern section of the line. I wrote a copy for Mr. Horner, my associate in office; the others I never wrote a copy for at all. And all I know of the matter is, that they knew it.

Mr. Reid says: "He has two letters of mine, saying, the desire to publish this matter arose from a desire to be revenged on McLain and himself, because he didn't give me a larger salary; and that such things are disgraceful to me as a man."

There is a mixture of truth and falsehood in the above statement that I did not expect from a man wearing a sanctimonious look, and the writer of annual religious whines to his employers.

After the farce of dismissal and subsequent *restoration* of the men implicated in the foregoing, they sought every opportunity to annoy and misrepresent Smith and myself. They could never forgive us. I suppose it was but natural. I am not aware that in our public courts the accused have any particular affection for the witnesses who confront them. Be that as it may, I very soon afterwards resigned my connection with the line, not, however, without carrying with me the "regrets" of this same Superintendent.

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* **Wholesale stealing was fairly promised.**

After our departure, they revelled in abuse of me; and so gross did it become, that a gentleman connected with the Line considered it his duty to inform me of it. I then resolved to punish them by the publication of their bargain. The resolve was not Christian-like, I own; it was but "human nature." *But before doing so*, I wrote to Reid, (and I almost regret such misplaced generosity,) telling him what I was about to do. I reminded him of his broken pledges, and told him he had little claim on my forbearance; but, so far from wishing to be revenged on him, I actually furnished him with a copy of the dialogue, and concluded my letter thus:

"I have unmasked the battery; *you will now know how to defend.*"

This is the letter that this man [or Mr. Robinett] has the hardihood to come forward and say "is disgraceful to me."

I have now waded through the filth which "the Committee" sought to heap upon me.

After a two months' incubation, this Committee have produced a report. They are utterly unable to shake the charge you brought against them; and, knowing this, their worthy Superintendent, standing in the back-ground, suggests an epithet, and *coins one for the occasion;* and the Committee immediately sink to the level of rowdies, and adopt it.

What a confession of the weakness of their cause! What a commentary! What an exalted view of the sacred trust committed to their care, do these men take!

"Do it up *brown*, and you won't grumble for pay," says one; and the Committee answer with an epithet!

"When you get hold of any dispatches you are afraid of, *color them*," says another; and again the Committee answer an outraged community with—an epithet!

With what transparent humbug, too, do they announce the resignation or discharge of "one of 'em," just on the eve of publication! I quarrel not with the picture they have drawn; but it is incomplete: if a *discharge*, they should have designated its *number*.

Gentlemen of the Committee—you, too, must "color a little," if you expect to be believed. You know that there were *three* implicated—*three* discharged—and *three* restored; but, with a cool effrontery, characteristic of your dignity, you inform the public that there were only *two*. If this is not "disgraceful to you," I have yet to learn what disgrace is.

Come forth, James Douglas Reid, and tell us where is *he* whom *you yourself have pictured* "standing before the Board, suffused with tears." *You*, who have assisted at and amended this report; *you*, who skulk behind a committee, and, like a dastard, attempt to stab another's reputation, come forth! and manfully name a single act of mine, inconsistent with honor and honesty, whilst in your employ. I demand it, and I shall nail you to it.

JAMES BAILEY.

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Festivities of the Telegraphers.

IT is pleasant to find the routine of business occasionally enlivened by such festive scenes as that presented at the Astor House by the recent banquet of the Telegraphers. We were present at the first assemblage of the Telegraphers, several years ago; an assemblage to which Mr. Swan alluded in his remarks on the late occasion: and we regret that circumstances prevented us from complying with the invitation for the Astor House, which one of our friends sought to place in our hands. But we hope to "brighten the chain of friendship" with our lightning brethren on some future occasion.

One of the gentlemen who was efficient in the proceedings on the late occasion, furnishes the following account of the ceremonies; copied partly from the *New-York Herald*, and the balance made up from his own original notes of what occurred:

On Saturday evening, a festive réunion of the gentlemen connected with the various Telegraph offices in this city took place at the Astor House. In mentioning that establishment, it is almost unnecessary to say that the table groaned beneath the luxuries, which were disposed with the characteristic taste of the caterers.

Mr. J. A. Lefferts occupied the chair, Mr. N. T. Curtis officiated as Vice-Chairman, and Mr. W. M. Alexander acted as Secretary.

After the report had been concluded, the Chairman rose, and said that he felt proud of being the first person who had proposed a social gathering, which he considered was calculated to promote a glorious bond of union among Telegraphers. He was truly gratified at seeing so many present, and regretted that others whom he had expected were absent. He came there that evening totally unprepared to make an address on any subject of interest connected with the Association. He was not now in the profession himself, but he felt, and ever should feel, a deep interest in the Association. He had received from all his friends connected with the Telegraphs the most courteous treatment, which he trusted would never be obliterated from his recollection. He felt pleased at that treatment, and he was doubly gratified at the compliment which had been paid him, in placing him in the chair that evening. He excused himself from making any lengthy remarks, and expressed his warmest thanks for the honor which had been conferred upon him. He held in his hand a letter from Mr. J. Penney, Jr., of Albany, which he read:—

Albany, March 26, 1853.

Messrs. Faxton, Alexander and others:

Gentlemen:—Your polite invitation to be present at the Telegraphers' Festival reached me this morning. I regret, exceedingly, that my business engagements are such as to render it out of my power to be present. As one interested in a business so purely scientific, yet so beautifully practical, I assure you of my hearty coöperation in every effort to promote its extension and the interests of corporations engaged. In reviewing its rise and progress, and retracing, step by step, the investigstions of genius and learning, we feel our indebtedness to the early pioneers in the science on which our art is based: and while appreciating the deep researches of those master minds, we cannot but admire the disinterested boldness with which they urged the consummation of theories which were only encouraged by the sneers of incredulous communities. Among them we find men of every nation and every clime. While enjoying the benefits of discoveries, let us not forget the discoverers. Allow me, gentlemen, to propose the following sentiment, and subscribe myself, with great respect, your associate,

J. Penney, Jr.

The Memory of Benjamin Franklin—The wise diplomatist, the fearless patriot, the honest man; the philosopher who, while beckoning the lightnings of heaven from their airy vaults, was yet proud to be called an American.

The Chairman also read the following letter:—

Utica, March 26, 1853.

Gentlemen:—I regret exceedingly that business engagements prevent me from attending your dinner; but believe me heart and hand in your midst, freely coöperating with you in all that may tend to a union of friendship and interest. I send you the following sentiment:—

Benjamin Franklin—He sought the clouds for lightning, and obtained it—by thunder.

Rufus Bullock.

Telegraph Committee, New-York city.

He had also received Telegraphic communications from the Boston Bain office, and from Mr. Edson, of Philadelphia. The first was to this effect:—

The Boston Operators to New-York, greeting:—

We are with you in spirit, and give you:—

The Electric Apparatus of the Eighteenth Century, and its Operator, Benjamin Franklin—The handkerchief and line, the key and the philosopher—His battery the thunder-cloud—his circuit the hearts of the American people. He made his impression on the age in which he lived. May every operator follow his example. W. F. Richards.

Boston Bain Office, Union Telegraph Line.

The other, which was a Telegraph printed slip, ran as follows:

Philadelphia, March 26, 1853.

To the President of the Telegraph Dinner, Astor House, New-York.

Mr. President and Gentlemen Telegraphers:—I regret that we are so far separated this evening that I cannot participate with you in the interchange of friendly sentiments around the social table: but, thanks to American genius and American enterprise, I can converse with you by Telegraph as readily as if present. As this is the first occasion of the kind, where the operators employed by separate and competing Telegraph lines have met to spend a social evening, I hope this is only a commencement that will be often repeated; and before another meeting, cannot some one of you discover a mode of transmitting boned turkey over the wires? In conclusion, I give you—"The Operators: The confidential nature of their business, the frequent perplexities incident to their profession, combined with the arduous labor to be performed, entitle them to the especial attention of all Telegraph men, and more especially to the Boards of Directors who fix their salaries."

A general proposition was made to toast Messrs. Edson and Bullock, and Mr. Richards, of Boston, which was immediately acted on.

Mr. Curtis responded, and after returning thanks for Mr. Edson, said he felt gratified at being there that evening. The number assembled at that, the first gathering, argued well for future harmony. There was a time when the employees of various opposition offices held apart, but that festive meeting was a healing together. He hoped it was the commencement of a long series of happy meetings; and he trusted that all present would agree with him, that there ought to be a grand meeting of all the Telegraph operators from all parts of the Union.

On the invitation of the Chairman, Mr. Alexander responded for Mr. Bullock:—

"Fellow-Telegraphers:—I am not in the habit of making public speeches, nor do I mean this evening to tax your patience to any great length of time in listening to the remarks I am about to make; but as this is an occasion of more than ordinary character, and one that involves the interest of many of my personal friends, I feel that I must say something, and I thank you, Mr. Chairman, for having allowed me an opportunity.

"This meeting is got up for the purpose of devising the best means for securing harmony—of producing a more extended acquaintance and brotherly feeling between those who are engaged, either directly or indirectly, in the art Telegraphic. It is a great and glorious move, and really the consummation so devoutly wished.

"For a length of time, nay, I may say since the commencement of the building of the first line, there has been a line of distinction drawn between those who are engaged in the profession, and which has certainly not been productive of any beneficial results to either party. Harmony of action was needed. Our business requires close application. It taxes our patience sometimes to the utmost; and although thousands of persons do business over the wires know nothing of the toils and vexations of a Telegrapher's life, yet we must continue to toil on, having but one common object in view—the interest of those who patronize the lines, and the securing for ourselves the good opinion of the public. To secure these objects we have met here to-night. Shall we fail? I think not. There is too good a representation here to admit of any such thing as failure. It has been proposed that we appoint a committee to-night, to make suitable arrangements for a grand demonstration, to be given in this city at no distant day. If that be carried out, the object we are now seeking to attain will be doubly secured. Certainly no preliminary arrangement has ever been carried out in such good faith, and with such earnestness, as this to-night; and if this is a type of what the future is to be, why, our most sanguine wishes will be attained, and we may yet live to honor highly those who have made the commencement. Some, I understand, are not pleased with this demonstration. Would that they could be! But I shall not attempt to dwell on that subject. We have willed it, and it is done. Standing, as I now do, before such an assemblage, I assure you I feel proud—pleased at having this evening increased my circle of acquaintance, and delighted to see a project which I have long dwelt upon carried to such a successful issue. May it ever be so. I belong to a line of Telegraph that prints messages; and although we may sometimes differ in opinion, I wish to imprint upon your minds that the gentlemen connected with House's Telegraph desire to be mutually acquainted with their brethren of the opposite side of the house. And although I am not a good representative, or in any way fit to express their views, yet I do not think I have fallen far short of the mark. I thank you much for your kind attention, and beg to offer the following sentiment:

"'The Ladies: The sweetest counsellors in the hour of affliction, our best friends; and, like stars of the first magnitude, they shine brightest in mankind's mortal sky.'"

The toast having been drunk,

There were several calls for "Mr. Swan," who, upon arising, spoke as follows:

"Mr. Chairman—I am happy to be able to respond in behalf of Mr. Richards, who, like myself, is in the employ of the New-York and New-England Union Telegraph Company, and I am also grateful for the privilege of being present at this social gathering of those who are or have been connected in different capacities with the Telegraph; and, Sir, I believe the credit of having originated the idea of calling together us Operators at a social banquet belongs fully to you. I am proud to say it, and to bear witness to the success which has attended your efforts. But, Sir, if it is supposed that this is the *first* time the Telegraph Operators have ever been together upon a similar occasion, (and, if I mistake not, I think I have heard such a statement since I have been sitting here at the table,) I beg to say it is a mistake. Three years or more ago, Mr. Henry O'Rielly gave a supper at the Pacific Hotel to his friends, the employees of the *various Telegraph lines*, resident in this city, to which I had the honor to be invited and to be present. I do not say that it was as full and as general a gathering as this one, but I recollect that the three lines to Boston were represented, and also the House Line to Philadelphia, and the Erie Line. Among those present were Mr. Carey, for many years connected with the House Line to Philadelphia; Mr. Foss, at that time Chief Operator on the Morse Line to Boston; Mr. McKenney, now Superintendent of the House Line to Boston; Donald Mann, Esq., the originator and present Editor of the *American Telegraph Magazine;* and others, whose names I cannot now recall. We had a good supper, Sir, and a good time, thanks to the generous gentleman who conceived the project of bringing us together.

"Mr. Chairman—Telegraphing is eminently a progressive science. One can hardly realize that the system first promulgated in this country eight years ago is essentially the same as that of the present day, so much has it been changed and perfected by the genius of invention. I commenced learning to operate in 1845, I believe, in the city of Utica, on what was called the New-York, Albany and Buffalo Line, though at that time its termini were Albany and Syracuse. The first line built in this country extended from Washington to

New-York, and the second was the Buffalo Line I speak of, and which I am glad to see so fully and so creditably represented here to night. I have a most clear and perfect recollection of the Utica office, as it appeared when I first set foot in it, and of the shape and form of the Registering Instruments. The Relay Magnet was as large as a tea-chest. The Telegraph in those days was more of a curiosity, Sir, than it now is. The gentlemen came to see its operation in crowds, and the ladies came also—

[*Chairman*, God bless them! (laughter).] —and we received, or tried to receive, reports of the doings of the Legislature at Albany, and we commenced operating at 5 o'clock in the morning, and if we got over a report of a hundred words, we thought we had done well, and every body thought so, and was satisfied, and said the Telegraph was a wonderful thing. Among those who manifested the greatest interest in its operation in those days, I remember Judge Bacon, a learned and eminent citizen of Utica. And you, Mr. Vice-President, [turning to Mr. Curtis] were there then, and recollect him well. You have not forgotten how he was wont to rap lustily on the office door with his cane, at daylight in the morning, calling you and me from our beds, and afterward standing by you while you deciphered the report for the paper.

"Well, Sir, those days have passed and gone, and the Telegraph has ceased to be a wonder. It has been extended all over the face of our country, and now unites every city and principal town throughout the Union. And, here, Mr. Chairman, I desire to make honorable mention of a name well known to all present, and to every one who has ever heard of a Telegraph. I mean Henry O'Rielly, to whose energy, industry, and perseverance in the early stages of the enterprise, the country is indebted for those vast ranges of Telegraph Lines which now bear his name, and which connect the Atlantic Ocean and the seaboard with the fertile valleys of the Ohio and the Mississippi. [Applause.]

"Mr. Chairman—There was a time when I believe I knew every Telegraph Operator in the country, either personally or by reputation, and now I scarcely know half who are seated around this table. Their number has increased in proportion as the lines have been extended, until the fraternity is a large one. They form an important body, for they are workers in a great cause. They are daily and hourly intrusted with matters of the greatest importance, affairs which demand the utmost secresy, and I am happy to say that I have never known of an instance where honor has been forfeited."

Mr. Swan then referred, in eulogistic terms, to the three systems of Telegraphing now in use in the United States: Morse's, House's, and Bain's, and concluded by proposing as a toast, the health of Marshal Lefferts, Esq., a gentleman to whose liberality, industry, and persevering skill, Bain's Telegraph was mainly indebted for its present usefulness and perfection. [Drunk with much applause.]

The Chairman proposed—

"To our closer union: May the element that gives us employment serve to unite us in a true, firm, unbroken circuit of friendship; and may every Telegrapher entertain for his associate a brother's feelings."

Mr. Munson responded. He was happy to say he was connected with the Telegraph. He felt the deepest interest in it, and had formed associations the most pleasing of any formed during his life. He hoped the present meeting would be the means of promoting a lasting harmony between all the Telegraph clerks. There ought to be an organization, for they are a people in themselves. He begged to propose—

"Telegraphers generally: May harmony ever prevail, with its "magnetic" influence; may there be no "Bain" to our existence, no enemy in our "House," but may our "Union," North and South, and East and West, be as durable as the element itself."

After a few private toasts had been disposed of,

Mr. Munson proposed the "Press," and named the *New-York Herald* in particular, which was drunk with three times three.

The reporter of the *Herald* (who was the only representative of the press present) briefly responded.

Mr. Alexander then gave—

"Professor Morse—The first applier of Telegraphing in this country."

Mr. Faxon responded, and gave the toast of the "Telegraph:"

"Linking remotest cities with a bound,
Speeds it like light, nor utters it a sound:
In rain or storm, in sunshine or the dark,
Conveying hope and joy. 'Tis but a spark,
But yet that spark doth time and space defy,
And earth stands still to see it dashing by."

The Chairman gave—

"To our absent associates—We feel that, though not with us, they are of us. May they enjoy all the pleasure and happiness that we can wish them."

Mr. Curtis proposed—"Mr. Lewis, one of the pioneers of the House Telegraph."

Mr. Lewis, after replying, gave—"The Telegraph and the Press."

The health of Messrs. Coleman & Stetson, the hosts, was then proposed by Mr. Hall, whereupon Mr. Swan arose and said,

He believed that Capt. Coleman, the head of the house, was absent from the city; and Mr. Stetson, he regretted to say, was and had been confined to his rooms by a severe illness, for several weeks. He was happy to hear such men toasted; too much could not be said in their praise, and he was proud of the honor of bearing witness to this effect, in the presence of the gentlemen around him. He had been an inmate of the Astor House for several years past, and he knew what he was saying when he stated that much of the success of that celebrated firm in hotel-keeping was attributable to the genius and capabilities of those who filled important places under them; for instance, the company could testify to the skill and good taste of the steward, Mr. Banta, who had provided this sumptuous and elegant entertainment for them. In every department of their vast business the same ability marked the workings of their trusty agents.

The toast was enthusiastically drunk.

Mr. Alexander gave—

"Professor Morse—He applied the fruits of patient and persevering research to the enlightenment of earth. Let his name be immortal.

"Professor House—He has brought types to the aid of a triumph in mechanism. Connected with Professor Morse, let him be regarded as a national benefactor.

"Professor Bain—Like Ajax, he defied the lightning, and like Ajax, he succumbed."

The next toast was proposed by Mr. Munson, who gave—"Mr. Charles T. Smith."

Mr. Smith, after responding, gave—"Mr. Coleman;" and remarked, that wherever there is a *coal*-man, it is a matter of certainty that there will be good cheer and a warm reception.

The Chairman proposed "The discoverer, Franklin, and the applier, Morse. The one, after conferring benefits, lives in the hearts of his countrymen; the other lives to see the benefits he has conferred."

The toast was drunk in solemn silence.

Mr. Swan then arose and said,

"Mr. Chairman—The drinking in silence to the memory of Franklin reminds me of a duty I have to perform. Death does not exempt our fraternity from his ravages, and we of the New-England Line have very recently been called upon to mourn the sudden and melancholy end of a brother operator. I refer to Mr. Perry, of Meriden, who was killed a few days since, while in the discharge of his duties at that place. Others, who in days past were co-workers with us, have also gone to their long homes, and we who are left know not how soon our circuit too may be broken for ever on earth. Sir, I propose the memory of those who have been taken from among us."

This toast was drunk in solemn silence.

Mr. Faxon then gave

"The Press—Especially the *New-York Herald.*

"Through which a people's mighty voice is heard;
Whereby to deeds of greatness men are stirred;
From whose all seeing eye no crime can hide;
The despot's hatred, and the freeman's pride;
Whose aim and mission ne'er on earth will cease
Till all mankind is free, and all is peace."

Mr. Faxton proposed the next toast:

"Benjamin Franklin—The originator of the Electric Telegraph—the boy-printer, afterwards editor, statesman, and philosopher. He drew lightning from the clouds, which afterwards astonished the people of this, our mother earth. May we all strive to emulate his example."

Mr. Swan proposed the health of Donald Mann, Esq., the Editor of the *Telegraph Magazine*, and the prosperity of his enterprise, which he said must be considered as the organ of the Telegraphers.

Drunk with applause.

Mr. Munson proposed the health of Mr. Bates, who was present as the guest of the Chairman, whereupon that gentleman made a neat and appropriate address, and concluded by proposing as a sentiment

"The Telegraphic Pen—Plucked from the lightning's red wing, more rapid in its movements, and more startling in its results, it is, indeed, mightier than the sword."

Mr. Swan proposed the health of James D. Reid, Esq., the efficient Superintendent of the Southern and Western O'Rielly lines, and also that of Mr. Duncan, from the same Lines, who, Mr. Swan said, was present at this festival, as his guest. Drunk with applause.

Mr. Duncan briefly responded, returning thanks for the honor conferred.

The Chairman then rose and read the following toast, which, he said, had been just put in his hand:

"The *New-York Herald*—The paper first in all matters of intelligence, and first to advocate the public good. May its enterprising proprietor and talented corps of assistants reap their reward for their impartial dealing, their strict dealing, and desire for the public weal."

A general proposition to toast the Chairman and Vice-Chairman having been carried into effect, the Chairman returned thanks.

It was then moved by Mr. Munson, and seconded by Mr. Swan, that a committee meeting should be called by the Chairman, to arrange for a regular festival, to which all the Telegraph Operators of the Union generally should be invited.

This resolution was carried unanimously.

"Auld Lang Syne" was then sung, and the company separated, after spending a most agreeable evening.

"Railway Financiering," and the Management of Telegraph Corporations, &c.

RECENT developments in the operations of some Telegraph Officers, to which allusion is made in the annexed Memorial or "Remonstrance" addressed to the Indiana Legislature—together with the irregularities which the Stockholders' Committee (of which EZRA CORNELL was a member) detected in the Stock-book and stock issues under the *late* Directors of the "Ohio, Indiana, and Illinois Telegraph Company"—will probably satisfy all concerned that the course which the *New-York Herald* recommends for adoption in *Railroad* matters, should be extended to Telegraph and other Companies.

From the *New-York Herald*—(Money Article.)

"THE affairs of every railroad in the United States should undergo just such a searching investigation as was made by the *Stockholders' Committee* of the Boston and Maine Corporation; but we are apprehensive that very few would pass through such an ordeal so creditably and so much to the satisfaction of their stockholders. It is in the power of the stockholders of every company to bring about such an investigation, and all who are interested in placing before the public a true and correct statement of the affairs and condition of the different corporations, will use their influence in appointing *cautious and careful committees* from the body of *stockholders.* It is impossible to get correct and honest reports from the Boards of Directors, and these companies go on year after year, without the *stockholders* really knowing whether their stock is worth one cent or one hundred dollars per share. The election of a *Committee of Stockholders* should take place annually, as regularly as the election of the Board of Directors, for the purpose of investigation and supervision. The Directors are for the time merely the servants of the stockholders, and their acts should be at all times subject to the examination of the more direct representatives of the proprietors."

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REMONSTRANCE

Against a recent Indiana Law, respecting Non-resident Stockholders, &c., (which Law purports to legalize "former irregularities" of certain Corporations, and to deprive Non-resident Stockholders of certain Rights.)

To the Honorable Senate and House of Repreesentatives of Indiana:

THE undersigned, citizens of New-York, Michigan, and other States, representing the interests of many stockholders in the States of Pennsylvania, New-York, Connecticut, Maine, Ohio, Michigan, &c., now at Indianapolis, respectfully submit:

That the law recently passed by your honorable body, entitled, "A bill for the *better regulation* of Telegraph Companies, *and legalizing their former acts,*" was probably passed by your honorable body without mature consideration, and will, if left on your statute-books, injuriously affect not only the interests of owners of telegraph lines in Indiana, but will also deter capitalists from investing in Indiana railroad and other bonds or stocks, to the great injury of the State.

That some of your memorialists are *owners* of a large majority of the stock of two extensive telegraph lines passing through the State of Indiana, and connecting it with Eastern and Western States; and that, by the provisions of said law, they will hereafter be deprived of any voice in the management of their own property in the State of Indiana.

That the same persons are also largely interested in the stock of the telegraph line known as the Ohio, Indiana and Illinois Telegraph Company, organized under the Indiana General Law, of which S. C. Wilson, of Crawfordsville, has heretofore been President.

That others of your memorialists are *representatives* of stockholders in various States, above mentioned, holding large interests in the said lines, thus located partly in Indiana, and connecting Indiana with other States in the Union.

Your memorialists, thus being owners or representatives of the large interests aforesaid, deem it their duty respectfully to state to your honorable body their belief that the "*irregularities*" in the management of said Telegraph Company (designed to be *legalized* by the law which your honorable body has been induced to pass) have been such as to destroy all confidence in that management, and to render the stock of said Company almost, if not wholly, worthless—if such "defects" and "irregularities" are sanctioned by retrospective laws, instead of being left for correction by the judicial tribunals.

And that they further believe, that the only "*emergency*" which required the enactment of a *special retrospective law* was designed (though of course unknown to your honorable body) to prevent the owners or representatives of a large majority of the stock from applying the only remedies likely to prove efficacious, by removing the officers and agents under whose direction the stock has been rendered almost worthless, and substituting other and more capable officers, or, on a last resort, of appealing to the judicial tribunals for redress of their grievances.

Your memorialists also represent, that some of them, representing a majority of the stock of the "Ohio, Indiana and Illinois Telegraph Company," (as well as otherwise representing the interests of owners of other telegraph lines located in Indiana, &c.,) came to Indianapolis, in November last, to attend a meeting of the stockholders of said Company; but were debarred from doing so by the falsehood and deception then practised upon them by some officers of said Company— the Secretary and Superintendent of said Company (who have had the chief management of its affairs) having informed some of the undersigned that the meeting would be held "at the Telegraph Office *after dinner*—probably at two or three o'clock"—when, in fact, as results showed, the said "Stockholders' meeting," so termed, was designed to be, and actually was, held in the forenoon,—when not more than *two hundred and thirty-five* [235] *shares* were said to have been represented; while those of your memorialists who were then at Indianapolis, awaiting the meeting, represented nearly *two thousand* [2000] *shares*, or four sevenths of all the stock *legally* issued by the Company.

Your memorialists further represent that section third of the late objectionable law was intended to prevent stockholders residing in New-York and other Eastern States, who paid five eighths of the money required to build, organize, and defend the rights of the "Ohio, Indiana and Illinois" Telegraph Lines, from having any share in the management of the Company—(some of the officers of which lines procured the passage of the objectionable law) —while they deem it proper to add, that they never exercised any influence at former stockholders' meetings, having been content to rely on the good faith of the local management in Indiana, until the "irregularities" in that management rendered it imperatively necessary for the Eastern stockholders to exert an influence in correcting the errors and improving the condition of their property in the lines.

Your memorialists respectfully invoke particular attention to the fourth section of the objectionable bill, which attempts to *legalize all* "*defects and irregularities*" in the organization of lines, provided they shall not be so construed as to *prejudice the rights* of any *citizen of* INDIANA—no matter how much they may prejudice the rights of citizens of New-England, New-York, or other sections of the Union. What were the *illegal* acts requiring the retrospective action of the Legislature—this special "act of grace?" Were they frauds upon the stockholders? and is it desired that the stockholders of other States, who have invested their money in reliance upon the good faith and good laws of the people of Indiana, shall suffer the whole loss? Will the Legislature of Indiana solemnly sanction such actions of certain officers of the Ohio, Indiana and Illinois Telegraph Company, who wished to retain their offices against the wishes of a vast majority of the stockholders? We trust not: and in this trust, we earnestly present ourselves before the Legislature of Indiana. We cannot believe that such an objectionable law will be allowed to remain for a single month *unrepealed* upon the statute-book; for, otherwise, what safety is there for foreign investments in the railroad or other bonds or stocks of Indiana? What railroad stockholder can feel safe in his investments, if, after confiding his Indiana interests chiefly to the management of Indiana officers, he is defrauded of the right of meeting with his associates in *November* by the falsehood and treachery of some of the managing officers; and who, when he comes again to Indiana for a stockholders' meeting on the *second* of *March* following, is met on that morning by *a retrospective law*, "approved" on the previous day, for *legalizing* all "*irregularities*" against which he came to Indiana to protest with his vote, or to appeal to the *Courts* of Indiana?

Your memorialists further ask attention to the declaration of the law that "*an emergency exists*," requiring such extraordinary legislation. What was that "*emergency?* The stock of the Ohio, Indiana and Illinois Telegraph Company is principally owned in New-York, New-England, and other sections of the Union. The management, for the last two years, was, by consent, given to the resident stockholders in Indiana—under whose control the line was paying no dividends, and becoming much out of repair. The stockholders from other States came to Indianapolis to attend a meeting of the stockholders called here, some time in last November, when the Secretary and Superintendent of the Company *mis*-informed them respecting the *hour* of meeting—which *hour* (and also the *place*) had *not* been published in the notice—and the meeting was held by a few of the resident stockholders, without the knowledge of Eastern stockholders who were known to be in the city, from a distance, who immediately proposed to take legal measures to expose the trick and fraud practised upon them, in the Courts—when some of the old officers, under fear of exposure, declared the meeting illegal, and agreed to call another meeting in *January*—which, however, they postponed till *March*, for the evident *purpose*, as we believe, of consummating their plans to insure the sacrifice of the property of stockholders in other States—the said stockholders from New-York and other States having been distinctly informed by the then President of the Company, that "the resident Stockholders did intend to *repudiate the stock* of non-resident stockholders"—to accomplish which repudiation, *this law is the entering wedge*, and must be looked upon by non-residents as an intentional assault on their property,——to be applied to railroads and canals, whenever it is the interest of schemers to sacrifice the property of non-residents. But your memorialists, believing that *such schemes*, when fully under stood, or even suspected by the legislators of Indiana, will be promptly discountenanced, now respectfully present the facts for your consideration, to the end that the objectionable law may be *promptly repealed*—that it may not injure public credit or private rights, by being allowed to remain in force on the statute-books of a Commonwealth whose interests are so largely identified with the preservation of good faith with non-residents, who are owners of such a large share of the stocks and bonds of the corporations of Indiana.

And your memorialists, as in duty bound, will ever pray.
HENRY O'RIELLY,
JOHN J. SPEED, Jr.,
EZRA CORNELL,
J. H. WADE,
DONALD MANN.

INDIANAPOLIS, March 4, 1853.

(Annexed is the law above referred to.)

A BILL for the better regulation of Telegraph Companies, and legalizing their former acts.

SEC. 1. *Be it enacted by the General Assembly of the State of Indiana,* That all Telegraph Companies organized under the laws of this State shall have power to lease or attach to them other telegraph lines by lease or purchase.

SEC. 2. Any of said companies, through its Board of Directors, with the consent of a majority of the stockholders, shall have power to reduce its capital stock to any amount not below the actual cost of construction.

SEC. 3. The officers and directors of said telegraph companies shall hereafter be elected from among the stockholders residing in this State, or at some point in any of the adjoining States where any of said companies shall have a telegraph station.

SEC. 4. All irregularities or defects in the organization of said Telegraph Companies are hereby legalized: *Provided,* That this section shall not be construed in such a manner as to prejudice the rights of citizens of this State, nor in such a manner as to allow such Companies to institute any suit or suits against the inhabitants of this State, which they are not now allowed to institute by the laws of this State.

SEC. 5. It is declared that an emergency exists requiring the enactment hereby made, and that this act shall be in force from and after its passage.

Passed January 27, 1853.

G. L. SITES,
Secretary of Senate.
OLIVER B. TORBET,
Speaker of the House of Representatives.
ASHBEL P. WILLARD,
President of the Senate.

Approved March 1, 1853.
JOSEPH H. WRIGHT.

Illinois and Mississippi Telegraph Company.

IT is satisfactory to hear of the continued efforts to render the lines of this Company more useful to the public, and beneficial to the stockholders. The PUBLIC, thus far, have had all the benefits—the stockholders, including the constructor, having never yet derived a dollar of dividend from these lines. But let us hope for a "good time coming;" and let us trust that those who pay the assessment on the stock, for the purpose of putting the lines in better order (so that these lines may earn more money by being better able to transact business,) will ere long realize fair returns for the "bread they may cast upon the waters."

Judge Caton, the present President, is laborious in his efforts to improve and render profitable those lines; and we take pleasure in recording such evidences of attention to Telegraphic matters, as are furnished in this letter following:

Ottawa, Illinois, January 20, 1853.

DONALD MANN, Esq., Editor of the Telegraph Magazine.

DEAR SIR: — Allow me to acknowledge my obligations to you for selecting gutta percha wire for the St. Louis crossing. It was the best I ever saw, and was sent on and put down in double-quick time. My process of preparing and putting it down was published by the *Alton Courier*: one of the editors of which has charge of my office there, and is a No. 1 Telegrapher. You may have seen his notice of it. The Mississippi river is a hard customer to deal with, as it is not uncommon, when the Missouri is high, for whole cottonwood trees, from four to six feet in diameter, to come down with a six-mile current—raking the bottom of the river with their long roots; and unless a cable is strong enough to hold such drift-wood, it has no business in that river. I have entire confidence that mine is.

I am still prosecuting my experiments with the new magnets at my leisure moments, which are very few, I assure you. By actual test, the strength is more than doubled, as compared with the old kind. I have one just completed, for a relay, and it is so strong, with the amount of battery we ordinarily have on the line, that we can't work it conveniently, as the armature has to be drawn back over half an inch from it, while there is less wire than on the old one, which will only mark on a very low adjustment. Soon as I can find opportunity, I shall test it with a reduced battery, on main land. I fear I shall not have time to perfect my ideas on the subject before spring, as my time will be engrossed with my judicial duties during the winter. Yours, most truly,

J. D. CATON.

How the Spiritual Rappings are Made.

ACCOUNT for it as you may, or ridicule it as you choose, it is difficult to resist the concurrent testimony of multitudes respecting the *effect* commonly known as "*spiritual* rapping." We are not to be understood as avowing belief in *supernatural* agency, when we say that the matter is worthy of profound consideration. On the contrary, our views are somewhat analogous to the opinions expressed in the following articles, from Miss Beecher and Mr. Arend; and while we believe with both of these personages that extraordinary effects are produced in the manner above indicated, we do not believe the matter to be any less wonderful because it may be accounted for *without* resorting to supernatural theories. The operations of the Telegraph were not long ago considered by the "million" quite as improbable as any thing now related concerning the phenomena now commonly developed in a thousand "circles," like those mentioned in the statements of Miss B. and Mr. A.

(First Extract.)

To the Editor of the New-York Tribune:

SIR: I have just witnessed some "Spiritual Manifestations" that may interest your readers, and perhaps furnish the philosophy of the singular phenomena thus denominated.

After witnessing various trippings and movings of furniture, and after having myself taken a ride on a table around a room with no apparent motive-power but the delicate fingers of a young lady resting on the top of it, I was induced to examine still further.

I invited this young lady and another in the vicinity, who was a "medium," to experiment with me alone at my room. In a few minutes my table began to move about. I requested the young ladies to *will* it to move in certain directions, and found that it was under the control of their volition, but only at certain times. At other times it seemed to move without being guided by them, and as I conjectured, by *currents of electricity*, that interrupted their power for a time and then ceased, and they recovered it again.

We then tried spelling with the alphabet, and with success. One of the young ladies, conjecturing that in this too her will might have some influence, without mentioning her design, willed that the word "mother" should be spelled by the knocks. It was done. We tried other words in the same way, and with uniform success. The knockings seemed to be on the surface of the table. Either one of the mediums would mentally *will* to have a word spelt, and then the other, without knowing what it was, would call over the alphabet, and the word selected was uniformly spelt. A gentleman and several ladies were called in, and the thing was repeated with the same success.

My impression is, that *any* person who is "a medium" in the room, and in some peculiar cases persons *out* of the room, even at a great distance, might regulate the spelling by their will. Certain phenomena of *clairvoyance*, which I have witnessed, come in to account for this part. I think we have the key for much which has been mysterious, and one which probably, in due time, will end the whole theory of *supernaturalism*.

Respectfully yours,
CATHARINE E. BEECHER.

(Second Extract.)

Mr. Arend says—and his remarks have a practical bearing of deep interest—

Already it has been found out, if we are to believe *The Commercial Advertiser* of this city, (and I can scarcely doubt the correctness of his statement, as I have been informed by persons of the highest respectability, that they have in their domestic circles tried the same experiment with perfect success,) that a table may be magnetized by the human hand in about the same manner as steel or iron by a lodestone, so that it is attracted by it and compelled to follow it through the room. If this be a fact, it is certainly a discovery, the importance of which, as to its bearing on the sciences, can scarcely be estimated. If the spiritual manifestations had led to nothing but to this singular discovery it would abundantly atone for all the mischief which is charged upon them, and for a great deal more; for it is a discovery which, by revealing to us the most hidden springs of our organism, may ultimately lead to results which it is now too bewildering to contemplate in imagination. The writer in *The Commercial* seems not even to suspect the bearing of this discovery, of which an Arago or a Humboldt would feel justly proud. He treats it almost as contemptuously as the cock of the fable the precious pearl found by him in a dunghill. He attaches no other importance to it, but that it puts an end to the "spiritual imposition." As long as this power of moving tables and producing sounds in an unaccountable way was ascribed solely to spirits, the phenomena were absolutely denied, on account of their pretended impossibility; but now it has been found, as is asserted, to reside also in ourselves, and it becomes perfectly natural and a matter of course. But this very fact, which solves the mystery in the eyes of the ignorant, and makes henceforth these phenomena as plain as daylight into their sight, will amaze and perplex the scientific world. If this truly marvellous power of endowing inanimate objects with new capacities, belongs to the human system at all, it resided there for thousands of years without its existence being ever suspected by the scientific and learned; and if it is now brought to light, it is only due to the "imposition" of spiritual manifestations. But admitting, for the sake of argument, that no disembodied spirit had ever any agency in these manifestations, and that they must be ascribed solely to hidden forces in ourselves, the question arises, Who were the impostors—those who erred only in their attempt of explaining them by attributing them erroneously, it is true, yet candidly to spirits, or those who obstinately and arrogantly denied them in the teeth of unimpeachable testimonies?

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Maine Telegraph Company—Its Extent and Organization.

Bangor, Dec. 13, 1852.

D. Mann, Esq., Ed. Telegraph Magazine:

Dear Sir:—Agreeably to the request made through your columns, I send you a list of the officers of the Maine Telegraph Company.

From Bath to Augusta, a branch line owned by the Kennebec Telegraph Company is worked in connection with the Maine Line by a switch at Bath. Of this branch line, Justin E. Smith is Superintendent—resident at Hallowell. Respectfully yours, Jas. Eddy.

The line owned by the Maine Telegraph Company extends from Portland to Calais, a distance of 306 miles. It was built by James Eddy, in 1848. The present officers are as follows:

Hiram O. Alden, of Belfast, *President.* The *Directors* are, H. O. Alden, Belfast; B. C. Bailey, Bath; Edward O'Brien, Thomaston; K. Crockett, Rockland; Samuel Farrar, Bangor; James Eddy, Bangor; George W. Brown, Ellsworth; A. Hayden, Eastport; A. G. Chandler, Calais. James Eddy is the Superintendent, Secretary, and Treasurer.

At Portland, W. B. Chase is Telegrapher, and F. A. Hooke, Cashier; at Bath, George A. Hanscom is Telegrapher; at Damariscotta, G. Q. H. Putnam is Telegrapher; at Waldoboro', T. D. Currier is Telegrapher; at Thomaston, G. I. Robinson is Telegrapher; at Rockland, A. D. Nichols is Telegrapher; at Belfast, C. H. Burd is Telegrapher; at Bangor, H. E. Lascelles is Telegrapher, and J. S. Bedlow Accountant; at Ellsworth, J. B. Osgood is Telegrapher; at Cherryfield, M. P. Austin is Telegrapher; at Machias, F. J. Moore is Telegrapher; at Eastport, J. R. W. Johnson is Telegrapher; and at Calais, A. Daniel is Telegrapher.

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Telegraph Stocks—their Value.

We have daily inquiries made of us, at our office, as to the value of stock in some of the different Telegraph lines, by persons who hold or contemplate purchasing more or less of that kind of property, and who are entirely ignorant, as a general thing, of its intrinsic value; knowing nothing of the route over which, and the towns through which, the line runs, the amount of its business or the character of its dividends—without a knowledge of which, no correct opinion can be formed as to the dividends that it can be fairly expected to pay.

There is a good deal of worthless telegraph stock afloat, and persons buying had better do so after satisfactory inquiry made of those competent to judge of Telegraph matters. We are pretty well acquainted with the routes, business and management of most of the prominent lines in the country, and as soon as we can make our knowledge a little more definite, will publish a statement of their condition and prospects.

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Municipal Telegraphs.

Police Improvement.—The Common Council recently adopted a resolution to provide the means of Telegraphic communication between the police offices of this city. The necessary arrangements for effecting this are now nearly complete. The fixtures are being put up at the different station-houses in the city, and very soon every office will be able to communicate instantly with that of the Chief of Police. Orders can be sent to every part of the city, and detachments of police called for at a moment's notice. This will reduce the whole system of our police to a most beautiful precision; and if all the officers were what we fear they are not, we might have a municipal guard which would be an honor to the greatness of the metropolis.—*New-York paper.*

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Alleged Improvements in Telegraphic Switches and Insulators.

A friend has submitted to us a letter from H. S. Bishop, Esq., Superintendent of the O'Rielly Lake Erie Line, in which Mr. B. claims to have invented a new and valuable improvement in Telegraphic apparatus. Mr. B., however, claims nothing new, except in the arrangement and application. The result of any practical test of the alleged merits of the inventions, will be given when they are furnished to us for publication For the present we confine ourselves to a brief extract from a newspaper article enclosed for our examination:

"This switch differs in many respects from any heretofore invented; is simple in construction, and consequently cheap. It can be placed in circuit in a moment's time, adjusting itself; or it can be used as a ground wire, separating entirely contiguous lines or circuits. The switch when in use is a part of the main circuit, and will repeat from north to south or *vice versa*, by means of a mechanical arrangement by which it adjusts itself. Another feature is, it will operate to a charm as a lightning arrester, wholly protecting the operator or instrument from harm, so that lines may be worked during the severest storms, or when atmospheric electricity may be cutting all manner of pranks.

"Mr. Bishop has also invented an Insulator, combining a number of non-conductors. It is simple, cheap and durable—perfect in insulation, being wholly unaffected by storm or weather. This is all which can be desired or hoped for in an Insulator." So it is said.

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POSTSCRIPT.

Libels promptly repudiated by the Associated Press.

[From the New York *Sun*, edited by M. S. Beach, Esq., Secretary of the Associated Press.]

A most scurrilous pamphlet has recently been put forth, bearing on its face the imprint of "The Associated Press," in which an extremely ungenerous and disgraceful attack is made on Henry O'Rielly, Esq., the well-known and energetic constructor of Telegraph lines.

Our only purpose in alluding to it is to *deny*, in the *fullest and broadest sense*, *any knowledge of*, *or complicity in*, *the publication of it by "The Associated Press."* True, the writer incidentally remarks that he acts on his own responsibility, and without consulting the members of the Association; but the staring capitals of the title given to his essay, too clearly show his *intent* in *fixing the responsibility* upon *other shoulders than his own.* As to the charges brought against Mr. O'Rielly we have little to say. That gentleman can, undoubtedly, defend himself if necessary. We will only remark our conviction, that one of the *most important charges is entirely without foundation.*

The present Association of the New-York Newspaper Press was first started by the present proprietor of the *Sun*, on the occasion of his making arrangements for a daily express to secure the transmission of news from the South, and particularly from the seat of war in Mexico, in advance of all the ordinary channels of communication. Its objects and aims have been ever in accordance with the best interests of the whole community, whose confidence it has deservedly received and constantly merited. It does not lend itself, knowingly, to the attainment of private ends, whether of *revenge* or *speculation;* and when it desires to speak, it needs neither mask nor cloak behind which to screen itself from public observation.

National Telegraph.

NEW-YORK, ST. LOUIS, AND NEW-ORLEANS,
Office, No. 2 Wall St., New-York.

The connection of these important cities has recently been rendered complete by business arrangements of a lasting character; by which extensive interests are blended, and the process of transmission rendered more rapid and direct.

The revenues of the duplex lines from Pittsburg to St. Louis have, for some time, been devoted to their reconstruction and improvement. Messages are now sent direct to Louisville and St. Louis, and at pleasure to New-Orleans, save during storms.

Having two routes to New-Orleans, three to St. Louis, three wires connecting the Ohio river cities and interior, with extensive auxiliary lines to the Lakes, and interior of Western States, the public will find them suited to a correct, prompt, and extensive transmission.

These lines are termed "*National*," not to disparage former names, but to unite hitherto contending interests under a generic title, known to friends, and justified by their extent. They embrace 10,000 miles of wire, numerous offices, and an increasing business.

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"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.
"I'LL PUT A GIRDLE 'ROUND THE EARTH IN FORTY MINUTES!"—SHAKSPERE.

VOL. I.—NO. 6. NEW-YORK, JULY 15, 1853. DONALD MANN, EDITOR.

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AMERICAN TELEGRAPH MAGAZINE.

"CANST THOU SEND LIGHTNINGS, THAT THEY MAY GO AND SAY UNTO THEE, *HERE WE ARE?*"—JOB.
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VOL. I.—No. 6. NEW-YORK, APRIL, MAY, JUNE, 1853. DONALD MANN, EDITOR.

Notes on the History and Principles of Telegraphing.

TELEGRAPHIC INTERCOURSE BETWEEN EUROPE AND THE UNITED STATES.

Restrictions in Nova Scotia—concerning the Public, the Telegraph, and the Press.

THE judgment of the community will probably sustain us when substantially reasserting what was stated in our original prospectus: "That no branch of the Federal Government is now more closely connected *than the Telegraph System* with the feelings and interests of the American people." It is needless to particularize, when the reflections of every intelligent reader will furnish ample proofs of the proposition.

An agency thus intimately interwoven with the framework of society, demands a degree of public attention which warrants us in believing that a considerable portion of the present number may be occupied profitably to the public with some statements concerning the *Existing Restrictions in Nova Scotia on Telegraphic Intercourse between Europe and the United States*—the character of which restrictions renders it expedient to make a preliminary review of the "Relations formerly" AND UNIFORMLY "held" between the Press, the Public, and Mr. O'Rielly, in reference to the General and Individual Rights involved in the question of unfettered, impartial and economical Telegraphing; for securing which objects, Mr. O'Rielly extended certain Telegraphic Lines through New-England, when the controllers of the old Morse Lines imposed arbitrary restrictions upon the use of their Lines between New-York, Boston, and Portland, over which the Telegraphic Intercourse between Europe and the United States (*via* steamers at Halifax) was then necessarily transacted.

The consideration of Telegraphers and Editors generally is particularly invited to the subjects here indicated. The facts should be generally known, now that extraordinary efforts are made to misrepresent the "relations" existing between the Press and the Telegraph on the Lines between New-York and Halifax; "relations" which intimately affect the *Public Interest*, as well as the parties particularly connected with the transactions from the commencement of Telegraphing down to the present time.

The retrospect of these "relations," not uninteresting at any time or under any circumstances, acquires particular interest from the sinister attempts which have been made particularly to misrepresent alike the course of the Associated Press and of Mr. O'Rielly, as well as of this Magazine, and other parties, on these important subjects.

With these remarks, we commence a narrative which we aim to render as explicit as practicable in condensing a large amount of information in a comparatively brief space. . . .

—Some time in March, we received a pamphlet entitled "The Associated Press *versus* Henry O'Rielly and F. O. J. Smith."

The novelty of the *title* was rather amusing, in view of the course which *Mr. O'Rielly* at least has pursued in all Telegraphic arrangements for *the Press*, of which he is himself a member; a course which should at least free him from outrage, if it achieves nothing more in his behalf, from any person professing to write in behalf of his old Editorial brethren.

But the novelty of the *title* was eclipsed by the peculiar *contents* of the pamphlet. A prefatory note on the second page, is addressed to *us;* and as that note measurably indicates the object of the publication, (though it only faintly foreshadows the malignity and falsehood which characterize the assaults upon Mr. O'Rielly, who seems to be the chief point of attack,) we copy it as a "specimen brick" from the beautiful concern:

> "To DONALD MANN, Esq., Editor of the *American Telegraph Magazine:* *
>
> "The following remarks were called out by a letter addressed to Hon. Samuel Cunard, of Halifax, Nova Scotia, *purporting* to have been written by Henry O'Rielly, and published in the *American Telegraph Magazine* for October. The *fact* that that letter covers and endorses *three fraudulent* memorials relating to the arrangements between the New-York Press and the Eastern Telegraph Lines, coupled with another *fact*, namely, that *Mr. O'Rielly is making strenuous exertions*, in connection with F. O. J. Smith and others, *to break up that arrangement*, makes it very proper that some notice should be taken of the *relations formerly held* by *those gentlemen with that Association.*
>
> "It is proper to remark, that the writer taking up the subject wholly on his own responsibility, without consultation with any member or members of the Press, and without the least knowledge on the part of any one of them, of his intention. He will state, however, that he is *indebted to an individual in their employ* for some of the *facts* here set forth."
>
> * "These remarks were intended originally for the pages of the '*Telegraph Magazine*,' but a desire to give them *an extended circulation* has induced their publication in pamphlet form.

☞ No name or signature is given by the writer—even the printer's name *not* appearing on the pamphlet—for precisely the same reason that the article was not sent for publication in the *Telegraph Magazine*, *i. e.*, lest any clue should thus be furnished to the villain or villains concerned in the sinister operation. ☜

The coolness with which the author *in his title-page* has attempted to convey the *impression* that this assassinism is uttered or countenanced by the "Associated Press," (and nothing appears in the *body* of the pamphlet to discountenance the idea; nothing, save in a prefatory note, such as few readers ever examine,) is so indignantly repelled by the Secretary of that honorable Association, (M. S. BEACH, Esq., editor of the New-York *Daily Sun*,) that we submit the culprit, without further ceremony, to summary execution, by the sword of the editorial corps, under whose cloak he attempted to screen his stabs at Mr. O'Rielly. The "*Sun*" of the 25th of March, under the caption of "Telegraph Controversy," says:

> "A most scurrilous pamphlet has recently been put forth, bearing on its face the imprint of 'THE ASSOCIATED PRESS,' in which an extremely ungenerous and disgraceful attack is made on Henry O'Rielly, Esq., the well-known and energetic constructor of Telegraph lines. Our only purpose in alluding to it is *to deny*, in the fullest and broadest sense, *any knowledge of, or complicity in*, the publication of it by *the Associated Press.* True, the writer incidentally remarks that he acts on his own responsibility, and without consulting the members of the Association, but *the staring capitals of the title* given to his essay, *too clearly show his intent in fixing the responsibility upon other shoulders than his own.* As to the charges brought against Mr. O'Rielly we have little to say. That gentleman can, undoubtedly, defend himself if necessary. We will only remark our conviction that one of the *most important charges is entirely without foundation.*
>
> "The present Association of the New-York Newspaper Press was first started by the present proprietor of the *Sun*, on the occasion of his making arrangements for a daily express to secure the transmission of news from the South, and particularly from the seat of War in Mexico, in advance of all the ordinary channels of communication. Its objects and aims have been ever in accordance with the best interests of the whole community, whose confidence it has deservedly received and constantly merited. It does not lend itself, *knowingly*, to the attainment of *private ends*, whether of *revenge* or *speculation;* and when it desires to speak, it neither needs *mask nor cloak* behind which to screen itself from public observation."

☞ In ordinary circumstances, such a denunciatory article from the *Secretary of the Associated Press* would render needless any farther allusion to the villain who used (and probably yet uses) the "mask or cloak" of that Association for covering his "private ends" in the way of "revenge *and* speculation."

But the uncommon character of these operations enforces upon us a further duty, in justice towards all concerned—not merely towards the Associated Press and Mr. O'Rielly, *but to the Public generally*—for the whole community are interested in the facts and the principles concerning the Telegraphic Intercourse through Nova Scotia, between the "Old World and the New." From this duty we will not shrink, and in the discharge of it will be cheered by the consciousness, that we are fulfilling what is due quite as much to our brethren of THE PRESS, as to the party assailed, to the Telegraph system, and to our fellow-citizens generally.

The position and facilities possessed by a "Telegraphic Agent of the Associated Press,' not only serve to give great authority to the "facts" *or libels* which he may publish. but to secure for those "facts" or libels an extraordinary circulation throughout the length an breadth of the land.

Such has been the evidence in this particular case. People in remote sections of the Union, wherever it was supposed that Mr. O'Rielly's character or interests could be successfully assailed, were supplied with the infamous pamphlet before it was seen or heard of by some of the editors of the "Associated Press," whose flag or "imprint" it piratically bore! We have seen letters from two Presidents of Western Telegraph Companies, and we have information from other sections of the Union, mentioning the wide diffusion of that publication, and the base uses to which it was turned against Mr. O'Rielly.

There must be some extraordinary cause for such industrious malignity. What that cause is, may be readily understood by all who know the course which Mr. O'Rielly has pursued in *opposing all persons* (whether Telegraph officers or News reporters) *who have attempted to prostitute their positions by violating the sanctity of Telegraphic dispatches.* The assault made upon *him*, therefore, concerns not merely himself, but all who concur with him in rendering the Telegraph an IMPARTIAL PUBLIC CONVENIENCE; *open to all alike in the regular order of business*, irrespective of wealth or position; not controlled or monopolized in any quarter by "Agents" or "Patentees" claiming *privileges* which no "agency" or "patents" could rightfully confer.

The same spirit which influenced us in requesting for publication a copy of his letter to the President of the Nova Scotia Telegraph Company, (Mr. Cunard,) has induced us now, in view of the misrepresentations to which that letter has subjected us, as well as Mr. O'Rielly, in certain quarters, and particularly in view of the principles involved in the controversy, to request from him some Memoranda of facts connected with the "relations" between him and the Associated Press for the six or seven years prior to the Cunard letter, as well as a statement of the facts on which he was induced to write that letter in behalf of Editors and others aggrieved by the Nova Scotia restrictions. These Memoranda are annexed; and though they necessarily occupy considerable space, owing to the many facts necessarily brought in review, the time required for the perusal will probably be well repaid by the amount and character of the information acquired respecting an interest so important as the Telegraph System, in its connection, not merely between different sections of America, but with the Intercourse between Europe and America.

I. The first division of O'Rielly's Memoranda, it will be seen, is devoted to a brief review of the general "relations" of the Telegraph and the Press, as far as he was concerned during the last eight years: while,

II. The second division refers specially to the circumstances and principles involved in his letter to the President of the Nova Scotia Telegraph, Mr. Cunard:

(I.) MEMORANDA

RESPECTING THE "RELATIONS BETWEEN THE ASSOCIATED PRESS AND HENRY O'RIELLY"--

During the eight years since the commencement of Telegraphing—1845 to 1853.

Affecting the Principles which should govern Telegraphic Intercourse between Europe and America, across Nova Scotia, and elsewhere.

RECENT extraordinary circumstances, affecting the PRINCIPLES which should govern TELEGRAPHIC INTERCOURSE between EUROPE and the UNITED STATES, *through Nova Scotia*, as well as EVERY WHERE ELSE IN AMERICA, justify, if not require, a brief review of the events of the last eight years in Telegraphing—as far at least as concerns the actual "Relations between the Associated Press and Henry O'Rielly"—seeing that some anonymous villain has sought to gratify his "revenge" and promote his "speculations" by fraudulently using the "imprint" of that "Association" for the purpose of giving currency to the calumnies concerning those "relations" which he has scattered broadcast over the land against "Henry O'Rielly." "The New-York PRESS pamphlets," says the President of the St. Louis and New-Orleans Telegraph Company—"the New-York PRESS pamphlets . . . were scattered all over the country." So write, and so say, many other Telegraph officers in various sections of the Union—the manner in which the libels are disseminated, actually deceiving many into the supposition that they were published by the "Associated Press." Some strong motive must underlie the villany which has thus forged the "imprint of the Press" for the purpose of assailing me among persons with whom I have had or may have "relations" in telegraphic or editorial matters throughout the United States and British America. If that villany merely involved individual "revenge" and *ordinary* "speculations," it might pass with the silent contempt to which anonymous libellers are alone entitled. In this case, however, it affects not merely an individual, but *the Telegraphic Intercourse between Continents*—it concerns the American Press and the American People as well as it concerns "Henry O'Rielly," or as it concerns "the Association" under whose "mask" the assassin-like attack is made upon that individual—an attack which, as is elsewhere shown, has been disavowed and denounced with becoming indignation by the Secretary of the "Associated Press," whose "imprint" was thus fraudulently used.

The importance of the principles brought in review can be fully estimated by those only who consider the Telegraph System not merely as an ordinary business affecting merely the parties pecuniarily interested, but as one of the most sacred and important institutions of American Civilization.

> "Employed constantly," as was remarked on a late public occasion—"Employed constantly in the most confidential corespondence, by all branches of American Society within range of the twenty thousand miles of Lightning Lines which already connect nearly every town and village eastward of the Rocky Mountains—the depositary and messenger of secrets concerning the highest political interests, the mightiest business transactions of private enterprise, and the most sacred affections of the human heart in the relations of 'courtship, marriage, and death:'—transmitting daily and hourly the current intelligence which vibrates simultaneously among our fellow-citizens through vast regions, and makes them more fully realize the essential truth that we are ONE PEOPLE in all sections of the United States (*except on the Pacific coast*, which should not much longer form an exception)—exercising, in these manifold ways, some of the mysterious influences which were formerly deemed inseparable from Almighty Power on Earth—the American Telegraph System, in behalf of which this Magazine invokes public attention, is surely unsurpassed in importance by any one of the Departments of our Federal Government. . . . . .
>
> "An organization thus alike vast and novel—thus connected confidentially with the interests of every intelligent being in the land:—an organization largely influencing or wholly revolutionizing some of the old modes of commercial and newspaper business, and furnishing the Government and People with powerful means for promoting unity of defense against assaults upon our country or its institutions—an organization essential for such great purposes, *deserves*, nay *demands*, the enlightened attention of the People at large:—And, inasmuch as it is a great 'power behind the throne,' not officially responsible, so as to bring its affairs within reach of investigation by Governmental functionaries—inasmuch as it is thus identified with popular interests to a degree unequalled by any other enterprise in the affairs of mankind—the Telegraph System is emphatically a Popular Institution, of whose purity and efficiency the People generally must be considered the rightful conservators."

As my connection with the Telegraph System, the nature of which System is thus vividly and truly indicated, commenced with the commencement of the first Telegraph Lines ever established by individual enterprise—the first Prospectus of which was published by me in June, 1845—eight years ago: As that connection has been extended throughout the United States to an extent and for a period greater than the "relations of any Cabinet officer of the Federal Government in his connections with the Press and the People of all sections—the pages occupied by this retrospect will not probably be considered disproportionate to the subjects brought in review—subjects connected with *the future*, as with *the past*, in the career of American Telegraphing, for which a boundless field of extension and improvement is now presented. Although the Lines mentioned here, between New-York, Boston and Portland, form but a very small portion of the vast Telegraph range constructed and organized by me, the principles involved are of general applicability throughout the land. And to those principles, as to the narration of facts, I respectfully invite the attention of friends in all sections of the Union, with whom I have been editorially and telegraphically connected at different periods during the last quarter-century. It will be seen, that in the positions taken in my letter to the President of the Nova Scotia Telegraph Company, I am sustained by the expressed opinions of the officers of various Telegraph Companies. But, while always rejoiced to coöperate with friends, my advocacy of such correct doctrines is little influenced by the extent to which they may or may not be immediately popular, or the bitterness to which (as in the present case) they may subject me from interested parties.

With these preliminary remarks, the review or narrative may be commenced by remarking that the anonymous libeller who screens himself under the mask of "the Associated Press," takes occasion, among other calumnies, to misrepresent the Controversy with the Morse Patentees, and to volunteer a defense of *them* by asserting that it was *I* who committed a breach of contract with *them!* The *seeming* sanction of the "Associated Press" being now thus falsely given to the course of Morse, Kendall & Co., as against one who actually coöperated with the Associated Press in repelling the peculiar assumptions of those Patentees,—assumptions which, if not overthrown in former years, would have left the Associated Press and the Public entirely at the telegraphic mercy of those Patentees, (as the Press and the Public were for awhile at their mercy, until I constructed and organized new lines between *New-York* and Portland and elsewhere)—allusion to that Controversy is necessarily involved in (and indeed, *for other reasons* also, is *inseparable from*) a retrospect of the "Relations between the Associated Press and myself"—though it will only be mentioned as far as it has connection with the matters under consideration.

Without occupying time at present in details about the contract of 1845 between the Morse Patentees and myself, about which volumes of printed statements are on file in the courts, a couple of sentences from a writer in the "Tribune" in 1849 may be quoted as expressing briefly the origin of difficulty:—"They, the "Morse Patentees, quarrelled with O'Rielly, "and repudiated their contract with him, in "an effort (as the evidence shows) to extort "from him double the value called for by the "Contract. Next, they essayed to *punish the "Public* by issuing orders of non-intercourse "with the O'Rielly Lines west of Philadel- "phia," [extending from the Atlantic to the "Lakes and the Mississippi-a mode of coercion "afterwards practised against the Associated "Press]—"forbidding the Telegraphers on "their New-York and Boston Lines to receive "any dispatches 'for or from' any Lines con- "structed by O'Rielly, because he would not "pay them 50 (fifty) per cent. of the whole "Telegraph stock on a Contract wherein they "agreed to accept 25."

Without dwelling on the circumstances of 1845–6, when I was endeavoring to aid the Morse Patentees in getting up the Line between New-York and Washington, when "other resources" failed them, (as well as in extending the great Western Atlantic, Lake and Mississippi Telegraph under my Contract with those Patentees,)—about some of the difficulties in which, the Editors of the New-York Express were particularly conversant at the time, and particulars of which are shown in legal records under Mr. Kendall's own authority—I will here refer merely to the fact, that so sensible were the Morse Patentees of the services rendered in those trying times, (when Mr. Kendall failed to raise the requisite means, as his letters show,) that, in June 1846, on the completion of the Line between New-York and Washington, one of the first complimentary dispatches acknowledge that "Professor Morse congratulated Mr. O'Rielly on the success of his labors"—as published by the Press all through the Union, when announcing the completion of that early and important Line.

The "compact of June 1847" between themselves, and a "settlement" between one of them and myself, in December 1851, published elsewhere in this narrative, will indicate the *real* opinion of the Morse Patentees as to *who* began the conflict, and *who* subjected themselves to "liability" for "damages" resulting from their course in that unfortunate contest; a contest, about which, after refusing to grant the injunction which the Morse Patentees invoked against me, (their application being accompanied by voluminous allegations and copious arguments,) Judge KANE, in February 1847, expressed his views of "the merits" by the following emphatic OPINION:—"I may add," said the Judge, after deciding the application on technical grounds—"I "may add, as the request has been made "that I should express an Opinion upon *the "merits of the Controversy*, that I have *seen "nothing* in the facts that have been devel- "oped to call for a different conclusion from "that to which abstract principles have di- "rected me.—*Injunction Refused.*"

Never, at any court or time, although various suits were commenced against me during the last seven years—never have the Morse Patentees been able to sustain their course against me, whether in law or at equity, under the Contract of 1845—never was a verdict or decision rendered against me in any one of the suits thus commenced by them in courts within the vast regions covered by that contract—those regions including most of the country between the Atlantic, the Lakes and the Mississippi, *northward of the Ohio.*) Never—whether they appealed to Judge Kane, Judge Nelson, or Judge M'Lean—never! And it is a fact that may be memorable in legislative and judicial history, as well as in the history of the Telegraph System, that the only adverse decisions, the only injunctions ever issued against me in this "seven years' war of Lightning," on Lines extending through nearly all sections of the United States, were issued from a bench in the Kentucky district, outside the territorial limits of the Contract, being *south* of the Ohio River, in regions where I claimed the right to use other inventions different from Morse's instruments—from which district, the Senior or Circuit Judge (CATRON) *was excluded* ☞ by the effect of *two laws run through Congress in the last nights of two consecutive sessions*—the acting Judge contravening the established rules of equity by issuing *permanent* injunction where the allegations were contested, after having *refused me the right of Jury trial*—against which decision I have appealed to the Supreme Court.

With this brief allusion to matters connected with the Pioneer Movements for establishing the Telegraph System by individual enterprise, (which would furnish materials for volumes out of the records now in courts,) I pass to the autumn of that same year 1846, when those Patentees attempted to abrogate their Contract with me for extending the Telegraph between the Atlantic, the Lakes and the Mississippi," with the motives and in the manner above mentioned.

IN their attempts to prevent the construction of Telegraph Lines by me, unless I consented to pay them double the amount required under their contract with me, the controllers of Morse's Patents publicly announced substantially that they would not permit the Lines under their control to receive any dispatches *for* or *from* any Lines that had been or might be constructed by me.

Some of their Lines, like the old Morse Lines between New-York and Washington, and between New-York and Buffalo, would not become thus subservient to schemes of vengeance; but the interdict was rigidly executed on the Lines eastward of New-York City, to Boston, Portland, &c., under the Presidency of Mr. F. O. J. Smith.

The people along the vast Lines which I constructed over large sections of the United States were thus precluded from enjoying telegraphic facilities in connection with the New-England Lines—to such an extent, that dispatches from all lines built by me were compelled to *take the mail* at New-York, for all points *eastward* of that city. So with dispatches for the *West*. The people of New-England and sundry British American provinces were compelled to submit to equal annoyances, in order to get their dispatches, by mail or otherwise, to New-York or Philadelphia—whence, for considerable time, no other Lines save those I constructed extended to Cincinnati, St. Louis, and most other Western towns, along routes of several thousand miles in extent.

The right of determining who *should* or *should not* use the Telegraph, was thus broadly asserted on the old Morse Lines between New-York, Boston, and Portland; and meanwhile the Morse Patentees claimed also an exclusiveness in Telegraphing, alleging that their Patents forbade the possibility of any person using any other mode of recording dispatches by electro-magnetism.

The length and breadth of these claims were sweepingly asserted in a brief proclamation from Mr. Amos Kendall, then and now the Chief Manager for three-fourths interest in Morse's Patents.

"No combination of machinery," said Mr. Kendall—"no combination of machinery which imprints signals of whatever form, or produces sounds of whatever character, by means of electro-magnetism, as means of telegraphic communication, can be lawfully used in the United States without license from Professor Morse. It is immaterial whether the machinery be used for making dots and marks by *indentation* upon white paper, or to *print the Roman letters*, or any other characters—both are equally an infringement of Morse's Patent. (!) Different modes of effecting the object may be devised and patented, but the *vital principle* of them all, having been *discovered* by Professor Morse, (!!) cannot be lawfully used without first procuring a license from 'him." (!!!)

The claims and denunciations thus uttered by Messrs. Kendall and Smith in their warfare with me, were criticised by most of the prominent journals throughout the Union; and especially by several of the New-York City Journals, included in the "Associated Press"—of the language of which, the following extract from the "Tribune" may serve as specimens:—

"We do not believe the Stockholders of the Buffalo and Boston Telegraphs have ever authorized or countenanced the ***high-handed usurpations*** of public and private Right attempted by Messrs. ***F. O. J. Smith*** and ***Amos Kendall***; but if they have, we advise them to set to work at ☞***backing out***☜ at the earliest moment."

"The attempt of the assignees of Morse (Messrs. F. O. J. Smith and Amos Kendall) to punish the public for an alleged infringement of their Patent by O'Rielly & Co," adds the Tribune, "is at once ATROCIOUS and *impracticable*—as the previous assumption that Morse's Patent covers all possible modes of communication by means of Electricity, is PREPOSTEROUS!"

One of the Editors of the New-York "Express,' then temporarily conducting the Pittsburg Daily Gazette, uttered the general sentiment of the Press at that time in the following among other paragraphs:

"We are rejoiced to see him [O'Rielly] disposed to rescue the telegraph system from the odious tyranny of a monopoly. How far he has infringed upon Morse's Patent, or *to what extent* Mr. Morse and his friends have *refused to abide by their contracts*, is a question for the courts of law to decide, and one upon which we shall not here give an opinion. *We do protest*, however, against the idea that the lightings of Heaven are to be brought down to the low level of any human monopoly, and the elements themselves tried in the crucible of any avaricious assayer! Franklin understood something of the properties of *Electricity* before Mr. Morse's invention was dreamed of; and the use of wires for the transmission of intelligence, if not as old, is not by any means new." "Wonderful improvements have been accomplished by Mr. Morse," adds the Pittsburgh Gazette, "but may not Mr. House and others have improved upon him? We believe they have, and that the genius of no one man is so exalted that others may not soar above it. Heaven forbid that it should be otherwise!"

"We say that no man has a right to patent thunder and lightning," says the Richmond Whig; "but Mr. Amos Kendall thinks differently, as is evident from the fact of his maintaining that Morse's Patent embraces *all combinations of machinery moved by electro-magnetism*, which may be used to imprint signals upon paper or other material, or to produce sounds in any desired manner, for the purpose of Telegraphic communication!!! We leave it to the reader to say if this is not *going the whole figure*."

"It is to the *monstrous pretensions of Mr. Kendall that we object*—to the evident attempt to put a period to all ingenuity or invention, operating in the direction of his Patent, and *not* to his anxiety to preserve the legitimate limits of his Patent inviolate, [the Richmond Whig continues.] It is a well-known fact that Electricity was used one hundred years ago for the purpose of conveying messages, &c., and, though the method was entirely different from that of Morse, Mr. Kendall's doctrine [of patenting '*an end*'] would embrace it."

The Albany Evening Journal, quoted by the Cincinnati Daily Gazette, and other prominent prints, remarked that

"The attempts [of F. O. J. Smith and Kendall] to embarrass them, however, induced Mr. O'Rielly and his associates to secure the use of several other systems of Telegraphing. Among them is the instrument of House—which is *only* an improvement upon Morse's system, if Morse has a patent for the principle of Electricity itself."

"Mr. Kendall has foolishly set up the claim that Morse's Patent embraces *any* and *all combinations* of *machinery* moved by Electro-Magnetism, 'which may be used to imprint signals upon paper or other material, or to produce sounds in any desired manner, for the purpose of telegraphic communication!' If *this* claim were sustained, it would shut out all improvements upon this great invention."

"If the principle which the claim [of Kendall and F. O. J. Smith] embodies had been maintained under Fulton's steam engine Patent, the travelling world might still have been content with moving on our lakes, rivers and seas, at the rate of five or six miles an hour. Not only this, but the slow signal process adopted in England [but which embodies, nevertheless, the soul of the whole system] could not have been improved upon by Mr. Morse. His system is a *mere improvement*. Others will improve upon *his*, and, in course of time, something will be discovered which will ***give us intelligence by lightning*** in large quan tities *almost as cheaply as it is now thrown from the Press.* Ours is an age of improvement, and so will be the ages which are to follow."

☞ Such were fair specimens of the prevalent public sentiment at that time concerning *the questions of public and private right* under which I was induced to extend new lines alongside of those on which my adversaries ruled with such proscriptive sway.

The proscriptiveness towards me was accompanied by an alleged want of courtesy and onerous charges in transacting telegraph business for the Press; and the evils became so insupportable that I resolved to construct Lines through New-England which should accomplish the double purpose of securing *impartial* transmission of dispatches at *reasonable* rates, while overthrowing the pretensions of *monopoly* in Telegraphing.

Mr. Bain had just then been refused a Patent for a new Telegraph, of different form—the Patent Examiners and Patent Commissioner having declared against his claims, and the Attorney-General having "clenched the nail" against him by upholding those Patent officers in their refusal to grant him a Patent. I encouraged Mr. Bain in making another effort, and that effort resulted in an appeal to Judge Cranch, who ordered the Patent Commissioner to issue the Patent which had been previously refused to Mr. Bain. I secured the right to use the new Patent, should one be obtained; and, in anticipation of securing such a reversal of the former judgment of the Patent Office against Bain, I had, some months before Judge Cranch's decision, made arrangements for extending new lines alongside of all the Morse Lines which had refused to transmit Telegraphic dispatches impartially eastward of New-York or any where else.

This was the origin of the Line which I established under the title of the "New-York and New-England Telegraph," between New-York and Boston—sometimes called the "Bain" or "Merchants'" Line. My resolution to establish it was cheered by such free-will offerings as the following, from many of the principal public Journals, particularly in New-York and New-England:—

From the Journal of Commerce, Oct. 1848.

"NEW TELEGRAPHIC ENTERPRISE.—We are gratified to learn that the extortion which has so long been practised on the Telegraphic line between this city and Boston, is in a fair way to be abated. Mr. O'Rielly, who has already caused to be constructed more than 4000 miles of Telegraphic line, chiefly at the West and South-West, is now in this city, and contemplates the construction of a line between this city and Boston. Having arranged for the use of Bain's [English] Telegraph, which is believed to be superior to any now in use in this country, he can carry this enterprise into effect without infringing upon any body's patent, and in so doing will confer a lasting benefit upon the community, and especially upon the two great cities at the extremities of the line. This line, moreover, will soon be connected with his Western Lines, and thus very distant parts of the country will be brought into near communication with each other, at prices comparatively small. Hitherto the benefits of the invention have been greatly abridged, in this part of the country at least, by the exorbitant prices demanded for service. Wherever O'Rielly's Lines are in operation, a more liberal system prevails, and the consequence is, that public sentiment is every where in his favor. He is satisfied with making 15 or 20 per cent. per annum on the capital invested, and appears to understand that the public have rights as well as himself. We are happy to say that he receives the most ample assurances [voluntarily tendered] from the public Press in this city, of their disposition and purpose to encourage his line, should it go into operation, by all the means in their power. We trust he will meet with similar encouragement in Boston and elsewhere."

From the New-York Tribune of October 4th.

A NEW TELEGRAPH TO BOSTON.—We learn that Mr. O'Rielly, who has returned to this city after having superintended the construction of more than four thousand miles of Telegraph in the South and West, designs establishing an additional line between this city and Boston. On this he will employ Bain's Electric Telegraph, which is said to write its messages much faster than that in ordinary use. Its plan is entirely distinct from any other invention, and its employment would, therefore, infringe upon no existing patent. The prices of telegraphing will be much reduced under Mr. O'Rielly's system; and as he proposes connecting this line with those at the West, communication with all parts of the country will be rendered much cheaper. We trust he may be encouraged to go on with his undertaking at once.

From the New-York Courier and Enquirer of Oct. 6th.

THE TELEGRAPH.—We see it announced in several of the city papers that Mr. Henry O'Rielly, who is well known throughout the Union for the energy and efficiency with which he has constructed, within a short time, *with inadequate resources and against very formidable obstacles,* over four thousand miles of telegraph, is about to build one between this city and Boston. It is evident, of course, that the public interest would be greatly promoted by having competition in this, as it is in every other enterprise; and if it can be done without trespassing upon the just rights of any other party, we trust another line will be speedily built. Certainly our own interests would be greatly promoted thereby.

From the New-York Express of Oct. 1848.

NEW TELEGRAPH TO BOSTON.—A New Telegraph Line between this city and Boston is soon to be commenced by the indefatigable Henry O'Rielly, who is too well known throughout the country, to need an introduction to any of our readers. Mr. O'R. has been in the city for the past few days, making final arrangements for the undertaking, and such as will succeed. * * * * Many who join in this enterprise are *large stockholders in the present line.* [And some of the Associated Presses were stockholders in that Morse line.] They see what O'Rielly has done in the West; and as there are more people, more capital, and more business in the East, they know that he can accomplish more for the community. The good wishes of the Press and People attend him wherever he is known.

The Herald and Sun also expressed their approbation; and the Editor of the Sun, M. S. Beach, Esq., as Secretary of the Associated Press, placed in my hands a statement of the extent and cost of the business telegraphed for the Associated Press between New-York and Halifax, with an approbatory resolution from that Association, declaring that, if I would establish a New Line between New-York and Boston, they would give all their business to that line for at least six months, at such rates of charge as I or my associates might determine, up to the amount or within the rates which they were then paying to the existing Morse Line.

This unison of sentiment among the Press and the Public in the Northern and Eastern sections of the Union, in reference to the principles whiich had influenced me in constructing and organizng, the various Lines known under the general name of the "Atlantic, Lake and Mississippi Telegraph," —particularly satisfactory from the pecular attendant circumstances—was in harmony with the feelings which influenced the Legislatures of Kentucky and Tennessee to evince their satisfaction at the policy I pursued in establishing equitable regulations and reasonable charges in the Western and Southern States, by the passage of the following laws:

> "*Be it enacted*, [by the Legislature of *Tennessee*,] That the act to incorporate the New-Orleans and Ohio Telegraph Company, passed on the 18th October, 1847, shall be so amended that said company shall *not* charge higher rates in proportion to distances, than are now charged on the Telegraph Lines from Philadelphia to St. Louis, constructed by Henry O'Rielly."
>
> "*Be it further enacted*, [by the Legislature of *Kentucky*.] That the rates of charging for Telegraphing on the Lines of the two Companies hereby incorporated, [namely, the companies of S. F. B. Morse and his associates, and of Henry O'Rielly and his associates,] shall not exceed the rates charged by the *Western O'Rielly Lines*,"—[which latter Lines only charged then an average of less than half the rates charged on the Seaboard Lines of Morse, Smith & Kendall, between Boston and Washington.]

The policy uniformly pursued by me, and as steadily sustained by the Press and by Public Sentiment, in reference to the "Atlantic, Lake and Mississippi Lines," as I termed the *first division* of the "Atlantic and Pacific Telegraph," had reference steadily to a completion of the enterprise on the same general principles to the shores of California and Oregon.

The Projêt which I published and submitted to Congress in the session of 1847-8, for extending the Lines between the Mississippi and the Pacific, as the *second division* of that great Inter-Oceanic Telegraph, met with similar approval in the Report published for the "National Railroad and Telegraph Convention" at St. Louis, in 1849—and a few brief extracts from that Report, in connection with the Legislative expressions of approbation and the good will of the Public Press generally, will indicate the sense entertained of the practical character of my actions and views respecting the extension of the Telegraph System throughout the United States. The Report said:—

> "The Scheme of Mr. O'Rielly is admirably adapted, in *every aspect* in which it can be considered, to the production of beneficial results. ☞ This, too, we know to be the opinion of a number of intelligent persons who have been familiar for many years with the whole western Territory and its contents." * * * * * *
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> "The more we have reflected upon this Scheme, the more firmly are we convinced of its feasibility and utility." * * * * * * * * *
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> "That the Congress of the United States, to which the following pages (of the St. Louis Convention Report) have been inscribed, will act with promptitude and efficiency upon the subject, there can be little doubt; and that a system which has been sanctioned and approved with such unexampled unanimity by those who, from their *locality*, *associations*, and *pursuits*, *must be the most competent judges*, will receive from that body respectful consideration, is surely to be anticipated."

"I will state," said Judge Douglas when presenting my memorial to the Federal Senate, "that this same plan was laid before a *National Convention in St. Louis*, in 1849—the Railroad Convention—and *received their approval*. It is the *firm conviction of all those living in the Mississippi Valley* and all *intelligent men who have directed their attention to the subject*, that this line might be well protected, and *thus a line of constant communication kept up between the Atlantic and Pacific shores*. The memorial states, that by this line, within two years from this date, [with the expected quickening of steam navigation between Europe and America,] we should be able to deliver the *European news* upon the banks of the Pacific "*within one week from the time it left Europe*."

Such were the circumstances existing at the *close of the first four years*—during which I had been engaged in extending the "Atlantic, Lake and Mississippi Telegraph Lines," between nearly all sections of the United States—having accomplished what I did "*with inadequate resources, and against very formidable obstacles*," as the Courier and Enquirer very considerately remarked, in the same spirit that led the same Journal more than four years before to endorse my plans for extending the Telegraph System by individual enterprise throughout the United States.

Completion of New Line between New-York and Boston.

The completion of the new Line under my arrangements between New-York and Boston was satisfactory to all concerned—to the Press and the Public, as well as to the Stockholders. An event which was considered so important to the interests of the Press and the Public, was hailed with cordial satisfaction by the Editors whose feelings had previously been signalized in its advocacy. The Journal of Commerce epitomized the prevalent sentiment in announcing the fact on the 29th of September, 1849:—

> "We have great pleasure," said that Journal, "in stating that O'Rielly's Line of Telegraph is completed from New-York to Boston, and will soon be opened for the accommodation of the public. * * * It worked beautifully yesterday, and we have no doubt will get a large share of the business. It will be conducted on *liberal principles*, and *not* on the *extortionate plan* of exacting pay *twice* or *ten times over* for work performed but once." [This latter clause had reference to the practice of the old Morse Line in charging fifty per cent. extra for every additional newspaper (after the first one) that might use a telegraphic dispatch—an Association of ten papers in New-York or Boston, for instance, having to pay five prices and a half—being *full* price for a dispatch to *one* paper or person, and *half price* for each other of the nine papers that might publish simultaneous copies of it.]

Although, owing to the efforts made to construct the Line in a better manner than lines generally, and owing to unforeseen expenses in getting the Line to work satisfactorily with the newly-devised electro-chemical instruments under Bain's Patent, nearly every dollar of the whole amount payable to me for the construction and establishment of the Line was actually disbursed along the route in completing the enterprise, leaving me no remuneration for the labors and responsibilities I encountered in all the difficulties connected with the getting-up of the Line amid fierce opposition in reference to the Patents, &c., (as the accounts of Mr. Marshall Lefferts and others in my possession will show—Mr. Lefferts at that time being Secretary of the Company and supervising the construction and payments,) my satisfaction at the successful working of the Line thus peculiarly beset with difficulties was scarcely alloyed by a thought of its pecuniary unproductiveness to myself personally.

It was a source of satisfaction to me to know, as stated by the Journal of Commerce, that the "Public Press of this city," from whom I had "received the most ample assurances, voluntarily tendered, of their disposition and purpose to encourage this Line, should it go into operation, by all the means in their power"—it was truly a source of satisfaction to me, I repeat, to know that my editorial brethren and the public fully realized all they had ever anticipated from the establishment of the Line thus built under my arrangements, and that the business of the Associated Press and of the Public was transacted over that Line between 1849 and 1853, a period of three years, with such satisfaction, that I believe a single word of complaint against it had never been uttered by any one of that Associated Press.

(Construction of new Line between Boston and Portland—Relations with Associated Press.)

But the difficulties of the Press with the old Morse Lines did not end here. EQUAL RIGHTS had been guaranteed by the new Line which I had constructed between New-York and Boston; but beyond Boston to Portland, the old Morse Line was controlled chiefly by Mr. F. O. J. Smith—who, in a controversy with the Associated Press, resolved to *exclude their Halifax foreign news dispatches from passing over the Morse Line between Boston and Portland*, as he had previously interdicted *all* dispatches for or from any Telegraph Lines constructed by *me*.

This exclusion of their dispatches from telegraphic transit between Boston and Portland, actually compelled the Associated Press to hire *extra Railroad trains* for transporting their Halifax (foreign news) dispatches between the Telegraph offices at Portland and Boston.

The great expense and trouble thus occasioned by the arbitrary system then enforced on the Morse Line (the only one then existing) between Boston and Portland, aroused public attention more fully to the extraordinary pretensions thus set up by the Morse patentees, as exemplified in the above-quoted language of Mr. Amos Kendall (Professor Morse's agent and partner) as well as the overt acts of Mr. F. O. J. Smith—they claiming not only an *exclusive* right to transact the business of telegraphing either by marks or sounds, but also claiming the right to exclude all dispatches " for or from" any persons or Journals with whom they might come in collision or differ in opinion—as they did first towards me in reference to the Telegraph Lines I constructed, and afterwards towards the Associated Press — doctrines which, if allowed to prevail, would have rendered the Electric Telegraph *the most enormous monopoly the world ever witnessed.*

To counteract these difficulties, many Editors and Telegraphers, as well as the Stockholders in the Line I had constructed between New-York and Boston, and in other lines which were cut off from enjoying the ordinary Telegraph facilities under the arbitrary rules which swayed the old Morse Lines between New-York, Boston, and Portland, evinced their anxiety that I should extend a Line from Boston to *Portland*, and I resolved to comply with their wishes.

My letter to the Associated Press, in January 1850, replying to their inquiries about the assistance I might want for extending the Lines beyond Boston to Portland, may be inserted here as furnishing the best cotemporaneous exposition of the "relations existing" between that Association and myself, and as a part of an eventful portion of Telegraph history :—

NEW-YORK, JAN. 23, 1850.

To the Associated Press of the City of New-York:

GENTLEMEN :—A committee of your Association having lately inquired respecting "the terms," and "how much assistance would be needed from your Association" to enable me to extend the "Merchants' Telegraph Line" beyond Boston, at least as far as Portland, on the route to Halifax, I take the opportunity to accomplish a double purpose by writing this letter in reference to the former agreement as well as the present movement of your Association.

1. After completing certain Telegraph extensions to the *Western* and *Southern* extremities of the Union, your Association evinced an earnest desire to have our Lines extended *Eastward* of the City of New-York; and, after full conversation at the interview to which you invited me by a letter from your Secretary, your Association (each Press being represented) voted unanimously, that, if I would construct a Line of Telegraph to Boston, you would, on the completion of it, direct that all your dispatches, foreign and domestic, should be transmitted over it for at least a certain period, (six months,) at such rates as might be fixed by myself or any Board of Directors - providing only that such rates should not exceed those which you were paying to the then existing line (controlled by Mr. F. O. J. Smith.)

2. Your Secretary, by your order, furnished me with an official copy of this agreement; and I deposited it with the "Merchants' Telegraph Company," formed for the purpose of managing that Line, as an assurance of your concurrence and support in their efforts to aid me by their money in carrying out your wishes on the proposed Line to Boston. In the course of conversation, allusion was made to the project of your Association becoming interested as stockholders in the Line; but, on reflection, you all then concurred that it was preferable for you, and might be equally satisfactory to capitalists whom I might ask to subscribe their money for making the Line, to confine your action to the agreement you thus made for giving your business to our Line, rather than to become pecuniarily interested as subscribers or stockholders in the Line.

3. Your reasons and your agreements were satisfactory to all whom I enlisted in the enterprise; and every effort that could be made to establish a Telegraph Line of *the best character in every respect*, has been made by myself and my associates in the "Merchants' Telegraph Company," to render our New-York and Boston Line not unworthy of the confidence which you evinced and the business which you pledged for it in advance. The Line is almost exclusively owned and managed by Merchants, whose names render it needless to give further assurance to the country for the honorable management of the enterprise.

4. When the question of rates or charges was discussed, you all said that you were less anxious for reduction of charges, however important that was, than you were for integrity and courtesy in the management of the Line; and, on the motion of the representative of the Journal of Commerce, you unanimously concurred in directing the Secretary to frame the resolution, which you afterwards fully approved and certified to me, that, as an inducement to me to construct, and to others to aid me in constructing, such a Line as you desired, you would, at least for a certain period, cheerfully pay any rates (not exceeding those you were paying) which might be charged by me or by any Board of Directors on the proposed Line.

5. The Line has been completed and working for some time; and the satisfaction it gives to its owners and the Public, (satisfaction more than once mentioned in some or all of your Journals) renders it needless to say more respecting the manner in which I have endeavored to realize the confidence with which you honored me in advance by voluntarily and formally pledging to me and my associates all your business, even without any restriction of rates (beyond what you were then paying the old line,) for at least a certain period after its completion.

6. With this explanation respecting *our existing agreement*, I now turn to the question of extending *to Portland* the Line which I have constructed for the Merchants' Telegraph Company between New-York and Boston. On this point, the circumstances just recapitulated enable me to be brief. In reply to your inquiry about what "assistance I would need from your Association," in thus extending the Line to Portland, I may state that, however satisfactory to me and my associates it would be to have you individually or collectively concerned as subscribers and stockholders

in the proposed extension, I appreciate sufficiently the feelings which influenced you to refrain from subscribing for the Line between New-York and Boston, to ask you to subscribe for stock in extending that Line to Portland; and I take pleasure in assuring you that *the Line will be extended by me to Portland*, as early as *a good line* can be built in spring or early summer, according to the statements in the accompanying Prospectus, without asking any loans or subscriptions from your Association—satisfied as I am, that, now when our line between New-York and Boston is in successful operation and ready to transact your business in a most satisfactory manner, you will further evince your good will by fulfilling the agreement with which you honored me in reference to that Line—which agreement, as before stated, was transferred by me to the "Merchants' Telegraph Company" as an important portion of the papers connected with the Line which was built by their capital under my arrangements.

7. You generously refused to restrict me in my charges, further than that they should not exceed those you were then paying to Mr. F. O. J. Smith's Line; but that you may see that neither myself nor my associates have any desire to presume upon your voluntary agreements and pledges to me, I may add that, while every practicable effort has been made to render the fullest satisfaction to you in the fidelity, promptness and accuracy, with which this the "Merchants' Line" is managed, the charges for Telegraphic dispatches to your Association over this Line will probably not cost an average of one-half—nay, not even one-third—of what your business during the year cost you upon the Old Line: And perhaps, ere long, you may find that the difference is even greater—tho' I will not promise farther at present.

With my hearty thanks for the generous spirit which influenced your course towards me, and with the assurance that no reasonable effort will be left untried by me or by the "Merchants' Telegraph Company," to render your Association the *fullest satisfaction* at *most reasonable rates* in Telegraphing, I subscribe myself,

Respectfully yours, HENRY O'RIELLY.

Some liberal *promises* of pecuniary aid were made by certain persons, and it was almost guaranteed that sundry towns along the route would also take some of the stock of the proposed extension, on condition of having telegraph offices established within their respective limits. Relying chiefly on these promises—but very little stock having been actually subscribed and paid for—I prosecuted the work with more than ordinary energy — instructing my agents to spare neither effort nor expense for completing the Line in the best practicable manner and in the shortest possible time. The chief agents employed in building the Line, (Chas. T. Smith, C. H. Hudson and other gentlemen,) have often told me that the extra efforts to *hasten* the completion of this Boston and Portland Line, so as to facilitate the transmission of the dispatches for the Associated Press *connectedly* over *all* the routes between Halifax and Boston, and thus save the Associated Press the expense and trouble of employing special railroad trains between Boston and Portland, caused losses and sacrifices to me of several thousand dollars, from the disadvantages incident to the increased cost of the extra labor hurriedly employed.

The whole amount of all the money ever paid by any persons to my agents under my order, for construction and all other expenses connected with this Boston and Portland Line, (for scarcely a dollar of that money passed through my hands,) did not exceed the small sum of three or four thousand dollars; and this money was paid, not by the "Boston and Portland Telegraph Company," but by *a few individuals* prior to the organization of said Company — the *Company* being organized *only* when I had the Line ready to deliver to it — all the responsibility of originating, constructing and organizing the Line, until the period of its delivery, devolving entirely on myself personally, or my agents, as the records show.

Other embarrassments were somewhat proportioned to the disappointments in the promised pecuniary assistance, as is usually the case. The "places along the Line," having Telegraph offices opened, did not seem inclined to realize the promises made by certain persons in their behalf in the matter of subscribing and paying for some of the stock.

It was said, however, that money enough would be forthcoming, in subscriptions or sales of stock, *after* a company was regularly organized and the Line delivered to it, so that personal liability or other difficulties might be avoided.

It was proposed that the Company, when organized, after receiving the Line from me, should retain and sell enough of the stock to pay off the money balances due by me for expenses of construction along the Line; and the balance that would be due me for construction, organization and patent inventions for the Line, to be paid me *in stock* of the Line. *Not a dollar of money* from the *Company* ever came into my possession; and of the twenty-two thousand dollars' worth of *stock* coming to me from the Company, (beyond what was retained under the pledge to use it in paying the balances due along the Line,) *every share of it* was issued by the Company itself, *not to me personally*, but under my order in favor of persons who had aided me with the three or four thousand dollars, (all the cash obtained by myself or agents from others during the construction,) or by services or material or patent rights.

But *the desire of having every thing settled quickly and satisfactorily* for the balances due for construction, (which balances the Company agreed to pay, in consideration of the stock I allowed it to retain out of the aggregate amount that was due me for the Line when I transferred it to the Company,) induced me to arrange the matter as it was arranged, in the supposition, and under the assurance, that the *Company* organized to receive the Line could, more readily than any *individual*, raise money by selling the stock which I left in their hands to meet the balances due along the Line from the failure of certain towns and persons to subscribe and pay for stock as was *liberally promised* to *encourage the building* of the Line and the establishment of offices at sundry places.

I willingly sacrificed all power and profit connected with the Line, in order to facillitate the settlement of remaining claims; and supposed that with a line so situated, and having the business of the Associated Press in addition to its other advantages, the Company would soon have squared the remaining balances of accounts in accordance with the feelings which influenced me in assenting to every arrangement that seemed calculated to promote the desired object. If those balances are yet unsettled, I may say, that while I throw no blame on any one, it is scarcely generous that blame should be thrown on me.

Much more might be said; but even these brief remarks will indicate some of the "very formidable obstacles," (to quote the phrase of the

Courier & Enquirer,) with which I had to contend in completing an independent Telegraph Line on a route and at a time so important to the Associated Press and the public generally. I blame no person for these disappointments, where I had reason to expect a realization of *at least enough* to pay the actual cost of construction and organization of the Line; and let others judge whether I should now be outraged by allegations, (disseminated by an agent of the Associated Press,) that I had squandered the money of "confiding stockholders" for "four times as much as my estimates of the cost" of the Line, and then "left the Line in debt for four times as much as I originally estimated its whole cost!"

A letter which I wrote to one of the editors of the *Courier & Enquirer* about the time and on the subject of the pecuniary troubles I suffered from the failure of means *promised* for the construction, furnishes brief allusion to the facts of the whole case—and indicates the "inadequate means" with which I was thus compelled to contend, in completing the much-wanted line between Boston and Portland. My letter was addressed specially to Mr. Andrews of the *Courier and Enquirer,* as he was one of the two editors (Mr. Hudson of the *Herald* being the other) who form the Permanent Committee of the Associated Press in reference to the Telegraphic arrangements, especially concerning the European News. Though not designed for publication, its insertion here is alike relevant to the subject and due to the cause of truth. By way of applauding the merit of the *Company,* who were supposed by some to have incurred all the responsibility and furnished all the money to pay for the line between Boston and Portland, the *Courier and Enquirer,* in expressing its gratification at the completion of that line, alluded to the probability that the stock of the line would be of little value, as it could pay little or no return to its constructors or owners. It was in reference to these remarks, that the following letter was written:

(Difficulties in Payment for Portland Line, &c.)
NEW-YORK, June 22d, 1850.

'G.H. ANDREWS, Esq., of the Courier and Enquirer:

"DEAR SIR:—With hearty thankfulness to you for the friendly spirit which influenced your remarks about the completion of our new Telegraph Line to Portland, (as a part of the New-York and Halifax line,) I would respectfully invoke your attention to a misapprehension which, if left uncorrected, is calculated to *add to the embarrassments,* I have encountered in completing the line so as to give *free communication between New-York and Halifax,* for *European* as well as local correspondence.

"Your article mentions substantially (for I have not a copy now before me) that it cannot be expected that the Boston and Portland section will pay any profit to its stockholders. This coming in a friendly article, from such a paper as the *Courier and Enquirer,* is calculated to embarrass greatly the efforts I was and am about to make to get some of the stock taken off my hands—for ☞ there has not been paid to me or my agents, for stock, in all, more than $3000 or $4000 in cash from subscribers for stock (in the Boston and Portland Line)—this subscription being made by New-York merchants previously interested as stockholders in our line between New-York and Boston.

"I struggled to complete *this* important connection solely and wholly on my own personal responsibility, without any aid beyond the above subscription for stock; and hoped, when the line should be done and working satisfactorily, as you now see it, that I could get some stock taken to relieve me from embarrassment in constructing it. I proposed to ask subscriptions at Portsmouth, Saco, and one or two other places, and also to get some more taken in this city beyond the small amount now owned here.

"Now, as I know well your kind intentions, for which I desire again to return my hearty acknowledgments, I show my sense of your friendly spirit by thus addressing you with the facts, in the confidence that you will find some suitable opportunity for correcting the misapprehension about the *paying* value of the stock, in a few lines that may be published in Boston and on the route to Portland before I start (on the 28th) to ask the subscriptions for stock at Boston, Lynn, Newburybort, Portsmouth, Saco and Portland.

"If you knew the amount of anxiety and annoyance I suffered and suffer, in trying to complete (as I have now completed) a homogeneous Range of Telegraph to all sections of the United States—harassed by lawsuits and threats of lawsuits, &c., calculated to frighten capitalists from aiding me—I think you would pardon me for thus invoking your friendly spirit. I struggled to show *by my works* that I *believed* in the *value* of the Line, *as a section of the great Telegraphic highway for European correspondence*—relying on the Public afterwards to fill the subscription so as to free me from embarrassment for its construction.

"Your own judgment and good feeling will dictate how (if at all) another reference can be made to the Boston and Portland Line, so as to correct the misapprehension you labored under—for I am sure the line *will* pay; and had I mean enough to enable me to retain all the stock, I would not ask subscription for a single dollar of it. Perhaps you may find opportunity in alluding to the handsome dividend which the New-York and Boston section of the Line is now declaring, payable on 1st July.

"The Courier and Enquirer (July, 1845) was one of the first newspapers which, five years ago, liberally copied and endorsed the views expressed in the circular which I then published as a Projêt for carrying out the Telegraph system by *individual enterprise,* before a mile of Telegraph was made by private effort anywhere in the world—(the government, you know, paid thirty thousand dollars for making the short experimental link between Washington and Baltimore.) It is a comfort among many troubles, to believe, from the present tone of the Courier and Enquirer, that I have not wholly disappointed the faith which that Journal expressed in me *when all was yet untried and new,* and when Electric Telegraphing was by many deemed utterly "visionary." Four years ago, (June, 1846,) the Courier and Enquirer probably, like other Journals in New-York, Philadelphia, Baltimore, New-Orleans, &c., published one of the first complimentary dispatches that ever passed over an American Line of Telegraph, to the person who aided Professor Morse when he could find little help from others:—'Professor Morse congratulates Mr. O'Rielly on the success of his labors,'—i. e. in 'connecting the Hudson and Potomac by links of lightning.'

"Changes have happened since then, but not in the friendly spirit of the Courier and Enquirer. The *whys* and *wherefores* of those *changes,* I surely should not object to have any one understand; but time will vindicate the right.

"It is difficult to avoid such reminiscences *now,* about the period of the anniversaries of the events alluded to—especially when time has more than realized all that I ever promised (concerning the utility of the Telegraph and the extent to which I would establish the "Atlantic, Lake and Mississippi Lines,")—more than the Courier and Enquirer voluntarily endorsed for me in 1845.

"Apprehensive of trespassing on your editorial avocations, I do not call at your office—preferring to send this ncte.

'Respectfully yours,
"HENRY O'RIELLY."

☞ SUCH was substantially the condition of things down to the month of June, 1852—a period which completed the *seventh year* since I commenced the establishment of the "Atlantic, Lake, and Mississippi Telegraph Lines"—during all which period, as their editorial columns show, not one single act or word on my part had ever elicited remark from the "Associated Press," except of the most friendly character, in reference to the efforts I had steadily made to consult the interests of the Press and the Public, amid all the extraordinary difficulties which environed me while I was constructing and organizing Telegraph Lines in nearly all sections of the Union.

("Settlement" under Contract with Morse Patentees.)

Before dismissing this branch of the subject, it may be added, in further explanation, that the settlement I made with Mr. F. O. J. Smith in December 1851 *had no connection whatever* with these *Eastern* Lines between New-York, Boston, Portland and Halifax; and had reference solely to the *Western* regions covered by my original contract of June 1845 with the Morse Patentees, (of whom Smith is one,) for extending the Telegraph *westward* of New-York between the Atlantic, the Lakes and the Mississippi. In those latter regions Mr. Smith had, by special contracts between himself and Prof. Morse in 1847, been invested by his co-patentees with *exclusive* power, and was absolutely *required*, to settle difficulties with me concerning the *western* lines, either "amicably or Judicially," so as to protect Morse and Vail against the damages that might accrue to me from what I considered their breach of Contract with me. The annexed agreement, marked A., between Morse, Vail and Smith, Mr. Amos Kendall acting as attorney of Morse and Vail on the occasion, will show the character of this arrangement. It will be seen that this agreement had reference *exclusively* to a settlement with me, and to the consideration which Morse and Vail (by their attorney Kendall) agreed to allow F. O. J. Smith for effecting the settlement which they *required* said Smith to make with me, so as to secure said Morse and Vail "from and against all claims or liability which Henry O'Rielly has or may establish upon said two parties (Morse and Vail) by virtue of any Contract made heretofore with said O'Rielly by said Morse, Vail and Smith," "touching the right to construct Telegraph Lines under said Morse's Letters Patent," &c. (See Contract annexed, marked A.)

It will be seen, by this agreement between the Morse Patentees, (the exact nature of which I did not learn till years after its date,) that I *could not* settle these western difficulties about the Morse Contract *with any person other than F. O. J. Smith;* as Morse and Vail, by their attorney Kendall, had thus vested said Smith with *sole* and *exclusive* authority to negotiate with me and settle with me to avoid damages. I was not aware of this particular state of things, when in November 1851 I addressed copies of the following letter to Mr. Amos Kendall as the representative of Morse and Vail, and also to Mr. F. O. J. Smith—from whom I had received a joint denunciatory letter just *five years before*—which denunciatory letter I refrained from answering save by the continued construction of Lines all over the Union, in which the Courts protected and public opinion sustained me.

As the best exponent of the feelings which influenced me in negotiations so important to the vast Telegraph Lines in the Western States, I annex a copy of what was substantially addressed by me to the Morse Patentees in November 1851—the copies varying only in a few words where necessary in addressing the different parties:

(Copy, substantially, of letters addressed to Mr. Amos Kendall, as agent for Morse and Vail, and to Mr. F. O. J. Smith, owners of Morse's Patents :)

NEW-YORK, Nov. 8, 1851.

"SIR :—It was my intention several months ago, on the completion of the sixth year of *the Contract* between Professor Morse and his partners and myself, to address you or him a letter respecting the unsettled relations between us under that Contract. Circumstances wholly unconnected with any recent legal conflict in Philadelphia between Prof. Morse and other persons with whom my connection ceased several months ago—circumstances merely personal to myself—have deferred the letter till *now* when I am particularly reminded of such matters by the recurrence of the anniversary of the last letter received from you (and never answered by me) in 1846—just five years ago.

"Intimations from gentlemen in whom you and Professor Morse place confidence—some of those gentlemen standing in the relation of counsel for the Patentees, and to one of whom I last summer expressed an intention of writing this letter—induce the supposition that there is a disposition to settle the controversies which have unhappily prevailed for the last five years, and which led to cessation of correspondence between us, as well as to the law-suits which have affected the Public more or less, as well as ourselves.

"The events of the long years of litigation render it unnecessary to indulge in remarks now as to the extent to which either side in these unhappy controversies have gone or may yet go in asserting or defending what is believed to be just and honorable. *You can judge* whether my course in now addressing you is influenced by any desire apart from *that which should sway any honorable man who is willing to meet an opponent on fair grounds* for amicable settlement of difficulties.

"Some former efforts to produce a settlement of these difficulties have been so largely influenced by other interests than those of the *principals* in the contest, that I am averse to any further *intermediators* on your side or mine; and I therefore prefer to address my remarks *directly* to yourself, as a representative or associate of Professor Morse. *If the frankness of this offer meets response from you*, you may soon have it in your power to judge whether I will throw (as I believe I have never thrown) any impediment in the way of adjustment of difficulties that have so long embarrassed the Telegraph enterprise—an enterprise which is yet in its merest infancy, and which is destined to an extension and magnificence rendering it the most memorable in the annals of the world.

"You are probably aware that, every where, through all the thousands of miles of Telegraph constructed within the regions covered by 'the Contract of 1845' between the Morse Patentees and myself, ☞ *one-fourth of all the stock, and all the dividends upon that stock* HAVE BEEN SACREDLY RESERVED BY ME (in trusteeship,) to enable me at any time to meet any just claims under that Contract or otherwise. *This constitutes a vast fund, such as was probably never reserved for any other Patentee;* and the manner in which that Fund has been every where reserved, although all the stocks of the Lines constructed by me, were issuable to my order, will show *the unswerving purpose on my part to reserve the means to meet any just claims of Prof. Morse or other Patentees.* THAT PURPOSE *influences me particularly in this letter;* for I am aware that special efforts are now making by certain persons, having seeming control on certain Lines, to convert this vast fund to objects foreign to that for which I have thus carefully reserved it through so many years of discord.

"Whatever *your* opinion may have been respecting the validity of the Contract between the Morse Patentees and myself, *you know the opinions officially expressed by Judges Kane and Nelson:* And, if deference is due to the decision of Judge Kane respecting the scope and validity of Morse's *Patent*, (and I look with great respect to any opinion expressed by that eminent Jurist,) it will probably be admitted that his Opinion respecting the validity of the *Contract*, and my faithful fulfilment of its requirements, is entitled to at least equal weight. His decision in favor of the Patent, if sustained by the Supreme Court, must give increased value to the *Contract;* and will enhance the importance to all parties of an amicable arrangement of all existing difficulties—that future effort may not be wasted in conflicts paralyzing to the Telegraph enterprise, and detrimental to the Public as well as private interests connected with that important enterprise.

"Should these views meet with your concurrence, I will endeavor to meet you at any time that may be designated. "Respectfully yours,

"HENRY O'RIELLY."

The reply of Mr. Amos Kendall, as Prof. Morse's agent, indicated a willingness to make some sacrifices to promote an amicable settlement of the long-pending difficulties. The answer of Mr. F. O. J. Smith was equally conciliatory; and as I found that the agreements between the Patentees still left the power of settling with me *exclusively* in the hands of *Mr. Smith*, as shown in the contract above-mentioned, (A.) a meeting at New-York was agreed on with Mr. Smith, which resulted in the settlement made between us on the 2d of December 1851 respecting the *western* regions included in my "Contract of 1845" with the Patentees whose interests in those regions he now exclusively represented. A copy of all the substantial parts of that settlement, excluding needless details, is hereto annexed (marked B.) showing the character of the engagements reciprocally made for terminating contests that had occupied several years over thousands of miles in the *western* Lines of the "Atlantic, Lake and Mississippi Telegraph." The attention of "all concerned" is respectfully invited to the character of this settlement, (marked B.,) as well as to the compact (marked A.) by which the other Morse Patentees devolved upon Smith the *exclusive* power, and *required* him to exert that power, in effecting a settlement with me to save themselves from damages for their breach of contract with me.

On the completion of this settlement in December 1851, I gave my power of attorney to Mr. Smith, as the representative of the Morse Patents, authorizing him to collect the large amount of stocks and dividends (estimated at probably $400,000, with about $50,000 in dividends,) which I had carefully reserved in trusteeship for several years, (separate from, so as not to be involved in my other personal accounts,) to enable me to fulfil on my part whenever those Patentees should fulfil or settle for breaches of contract on their part—it being provided, in the settlement, (B.) that one-fifth of the amount thus reserved for patent consideration, when collected from the several Companies, should be paid back to me or my assigns in partial atonement for the damages resulting to me from the attempted repudiation of contract and the consequent litigation which harassed me for several years in various *Western* sections of the United States between the "Atlantic, the Lakes and the Mississippi."

The history of the long and arduous contest which was seemingly terminated by that "settlement of December 1851," so far at least as I am concerned, MAY CHALLENGE ANY SCRUTINY, as a monument of the care with which I endeavored to fulfil any and all obligations that might be supposed to devolve on me towards even the opponents who had most bitterly assailed me (in the hope of extorting *double* what the contract required from me) in the establishment of a vast enterprise—of which spirit, my letter to the Morse Patentees, above published, briefly indicates the true character. *Never, in the history of improvement, public or private, was an amount so vast preserved with such unflinching steadiness, amid trying ordeals, to enable any man to fulfil obligations towards Patentees*—an amount, however, which the unfortunate collisions between the Morse Patentees themselves, (a lawsuit springing up between Messrs. Morse and F. O. J. Smith) has as yet prevented the collection from the companies with whom it was originally left by me to "abide the issue."

☞ So much for the assertion of the anonymous libeller that "one of the conditions and the first movement" in the alleged "compact" or "conspiracy" "between O'Rielly and Smith," by which it is said that "O'Rielly was required" and "made efforts" to effect "*a* "*union of the Lines between New-York and* "*Boston*, and between *the latter city and* "*Portland*, and throw the management of the "whole stretch into the hands of *Smith*, with "the intention of giving *to him a second time* "the power of *dictating* to the *Public* and the "*Press* in telegraph matters"!!

Having thus cursorily glanced at the "relations between the Associated Press and myself" during the first seven years of Telegraphing, I pass now to the

Eighth Year of American Telegraphing.

(*Union of rival Lines, &c.*)

The following statements will show whether, notwithstanding the calumnious pamphlet circulated anonymously by one of the agents of the "Associated Press," any change in the "relations formerly existing between us" occurred from any act of mine during this last year.

The commencement of the Eighth Year—say June or July, 1852—was marked by some combinations and attempted combinations between companies that had seemingly suffered pecuniarily from the competition and low charges that prevailed for some time previous on several routes.

The union of the "Morse" and "Bain" Lines between New-York and Boston, and the attempted union between the Morse and Bain Lines between Boston and Portland, (the "Bain" or "Merchants" being the names sometimes given to the Lines constructed by me between those points,) is actually charged as a mortal sin against *me !*—one of the "damning proofs" of *my* subservience to Mr. F. O. J. Smith!! and of *hostility* to the Associated Press!!!

"The first movement in *this* connection," says my anonymous assailant, meaning the *western* settlement of Dec. 2, 2851, of which the particulars are elsewhere given, "was "an effort to effect an union of the Lines between *New-York* "and *Boston*, and between the *latter city* and *Portland*, "and throw the management of the whole stretch into the "hands of Smith, with the intention of giving to him a "second time the power of dictating to the public and the "press in Telegraphic matters. The plot was cunningly "contrived : but like all other matters intrusted to O'Rielly's "hands, the execution fell far short of the design. The "project miserably failed in fact, notwithstanding pliant "tools were found in one of the Companies between New-"York and Boston."

In these, as in some other similar assaults upon me, the shot is misdirected, and glances from me against parties whom the *Agents* of the "Associated Press" would not willingly assail—seeing that some of the Associated Editors themselves *at the time* actually spoke not unfavorably of the "union" of the above-named lines between New-York and Boston—and seeing, also, that that "union was affected" chiefly, if not solely, through arrangements between (not *me*, but) Mr. *Marshal Lefferts* and Mr. F. O. J. Smith—the same Mr. Lefferts who was at the time President of the Bain Line, and who is considered particularly friendly to the Associated Press. *I knew nothing about the negotiation*, till the whole matter was *substantially settled between Mr. Lefferts and Mr. Smith ;* that negotiation having, so far as I know, been managed as exclusively between those gentlemen as a similar and simultaneous (though not equally successful) agreement was made by the *same parties* for uniting the Morse and Bain lines between *Boston* and *Portland ;* the testimony of Mr. C. H. Hudson, who is chief managing officer of the latter line, showing, in a letter elsewhere quoted, that even *he* never heard of the agreement between Lefferts and Smith for uniting the said latter line till nearly a fortnight afterwards, and it was only from Mr. Hudson that I ever heard any particulars of that attempted union, *which union* Mr. Hudson and myself *both opposed*, as we considered it unjust to allow any such amalgamation of property, at least "*until provision was first made to secure "payment to creditors, agreeably to the conditions "on which rests the company's title to the line ;*" (one of the conditions of my transfer of the line to the Boston and Portland Company being, that the balance due to me should be paid to certain creditors who aided me in constructing the line.)

As for the "union" between the New-York and Boston Lines, effected chiefly through the negotiations of Mr. Lefferts with Mr. F. O. J. Smith, it furnished occasion for several articles rather complimentary than otherwise towards those gentlemen, in some of the Associated Presses at the time. The *Courier and Enquirer*, for instance, one of whose editors constitutes half of the Committee of two in special charge of the Telegraphic affairs of the Associated Press, had some editorial articles on the 3d and 13th of July, 1852, in one of which Mr. Lefferts was particularly eulogized, while the other article gracefully "buried the hatchet," by declaring that the editors cherished no ungentle sentiments towards Mr. F. O. J. Smith.

"THIS IS THE END OF THE WAR," said the *Courier and Enquirer*, when announcing the "union" of lines between New-York and Boston. "This is the end of "the war commenced by the President of the old Boston "(Morse) Line against the Associated Press of this city. "*As one of that Association*, WE HAVE NO HARSH "FEELINGS towards that officer, (F. O. J. Smith,) who "has certainly shown that he possesses the quality of *per-"severance* in a degree rarely manifested by any thing that "goes on two legs. We also understand that the rates of "tariff on dispatches between this city and Boston will be "raised, on and after Monday next, from ten to twenty-five "cents for the first ten words, and two cents for each "added word. These rates are extremely reasonable, in "comparison with the charges over some of the other "lines."

Concerning this union between the New-York and Boston Lines, which thus appeared at the time to be satisfactory, not merely to Mr. President Lefferts, as a friend of the Associated Press, but actually to the associated editors themselves, as shown by the *Courier and Enquirer* and other papers, I may add, that without having any pecuniary interest in the Line or Company, I supposed the measure justifiable on the ground (if no other) that, even though enjoying the business of the Associated Press, the "Bain" or "Merchants'" Line, notwithstanding it made a large dividend the first six months after I delivered it to the Company formed to receive it from me, it was utterly unable afterwards to make any dividend for two years, owing to the force of competition, low prices, &c. But, whether justifiable or not, the "glory or the shame" *rests not with me*, but with Mr. Marshal Lefferts and Mr. F. O. J. Smith. And surely *the Press* did not then (if it does now) consider the junction very criminal, seeing that the *Courier and Enquirer*, one of whose editors had the best means of knowing what was going on, so far from considering the "union" hostile to the Associated Press, made emphatic declaration that *the war was thereby ended*, and disclaimed all "harsh feelings towards" Mr. F. O. J. Smith, "the President of the old Boston line," while particularly eulogizing Mr. Lefferts for his management of the Bain Line.

But, though I had no more concern than the *Courier and Enquirer* had in "effecting "*the union*" of these lines, I take pleasure in acknowledging that, after the union was effected, I used all proper influence, and used it successfully, in promoting *the election to the Presidency* of the United Company of *Henry M. Schieffelin*, the present incumbent, a well-known and highly-esteemed merchant, who had been President of the "Bain" or "Mer-"chants'" Company when, in 1850, I delivered the Line to the management of that Company—a gentleman, who, with all his other qualities, was known from the commencement as *a steady friend of the Associated Press.* Seeing the abuse with which I am assailed for matters in which I had no agency, it will be considered excusable to refer distinctly to the connection I had with the election of a President for the Union Company. When the period of election arrived, I was consulted respecting *the person who would probably be most acceptable* to the public, the press, and the stockholders. I suggested Ex-President Schieffelin. That gentleman was absent on a summer tour, and he was not personally known to Mr. Smith and others who controlled a majority of the United Stock. Mr. Smith said, however, that so desirous was he of showing his earnestness in harmonizing the discord which had unhappily prevailed, he and his friends would elect Mr. Schieffelin, relying on me to communicate the fact to him, and to request him not to decline the office, at least until after his return, when he could learn particulars of the causes which resulted in his election. I telegraphed him immediately at Saratoga. He replied by mail; and I rejoined in the following letter, the language of which expressed the motives which influenced me in unceremoniously suggesting his name (in his absence) as a worthy recipient of the Presidency of the Union Company:—

"New-York, July 19, 1852.

"Henry M. Schieffelin, Esq., now at Saratoga, President Union Telegraph Company, consisting of the united Morse and Bain Lines between New-York and Boston:

"Dear Sir,—Your favor of the 17th is just received. I am glad to find that you appreciate your election in the spirit in which it was made. The office will be one of the most distinguished in the Telegraph world. Capital $300,000.

"I rejoice to see gentlemen selected for such offices as will *satisfy the public* that *no sinister practices* will be tolerated—*no stock-jobbing operations practised*—and who will *require that everything in the management of lines* shall be *open, just and honorable.*

"The friends to whom I communicated your letter, are gratified to hear from yon.

"Yours, respectfully, HENRY O'RIELLY."

☞ So much for the union effected with the Morse and Bain Lines between New-York and Boston, from which it may be seen who was or was not concerned in the alleged "conspiracy" for "throwing the Associated Press once more at the mercy of Mr. F. O. J. Smith!"

As for history of the *Boston and Portland Line* which I constructed, and which line is now made a special pretext for heaviest denunciation against me, by the anonymous slanderer under the cloak of the "Associated Press," the incidental allusion already made to it will indicate a condition of things quite as remarkable as that which characterized the "union" of the Morse and Bain Lines between New York and Boston. It is one of the very last subjects on which any *reproach* should fall upon me from the Press or the Public, built as it was by me under all the peculiar circumstances. As already intimated, a "union" somewhat like that effected on the latter line, was attempted upon it, but I never learned much of the particulars till very recently. I learned enough, however, about a month after the arrangements which Mr. Lefferts (not I) had made with Mr. F. O. J. Smith, to induce me to *protest against it*, as inimical to the interests of creditors whose claims the Bain Company had agreed to pay in part consideration to me for the line, but which claims had lain too long without liquidation. I informed Mr. Hudson, the managing officer of the Company, residing at Newburyport, that I relied on his coöperation to prevent any transfer or amalgamation, *till aftter all just demands of creditors were paid*, adding that, from the "under-currents" which seemed to influence some recent Telegraphic movements, which I did not understand, I thought some measures should be taken speedily to secure payment to creditors, as the Company had stipulated with me, lest some unforeseen cause might arise, after such long delay, to delay still longer, if not wholly prevent, payment to those creditors. Were the contracts fulfilled by settlement of debts, I would not interfere for or against a union—that being the business of the stockholders, of whom I was not one. Mr. Hudson promptly replied, under date of July 16, 1852:

> "I assure you," said he, "that measures are in pro-
> "gress which, if they do not result in an immediate set-
> "tlement, will effectually secure the rights and interests
> "of all creditors of the Line. *Depend upon it*, (he added,)
> "no arrangement or disposition of the Line shall be made
> "with my consent, unless those rights and interests *are*
> "sacredly regarded. I have given the subject much care-
> "ful attention and consideration since I saw you in New-
> "York, and am *confident* that no disposition of the Line
> "*can* be made without my consent; but, nevertheless, I
> "will do nothing to prevent any arrangement which is
> "calculated to do justice to all parties."

The "under-current" still threatening to sweep away the Line in some way or other, without fulfilling covenants with me for paying certain balances due to creditors, (as I had witnessed and suffered from certain extraordinary operations on another Line not long before,) I continued advising with Mr. Hudson for a speedy settlement of the debts which had then lain nearly twenty months unpaid. Mr. H. evinced a desire to do all he could to settle matters; but he could not control the action of the *Company:* and as that gentleman, like myself, was erroneously supposed to have been privy to the arrangements for union between Messrs. Lefferts and Smith, it is just alike to himself and others, that the facts be shown in his own words, under date of August 3, 1852:—

> "It may not perhaps be known to you, that the 'agreement' between Messrs. *Lefferts and Smith* [for a union of the Morse and Bain lines between Boston and Portland] was made *without my knowledge*;—that I was neither advised with nor consulted in regard to it, until my visi to New-York on the 1st of July, *two weeks after its date*; and that I was then given to understand (by *both* parties) that it was *final*, and *must* be complied with. I state this merely to *correct any erroneous impression* which you may possibly have received in regard to it.
>
> "One thing is certain: The *creditors* have a just right to expect that no ultimate disposition will be made of the Line, until their interests are secured; and any attempt to violate their just rights in this matter will surely meet with a determined resistance. If the parties wish to protect themselves under the *Charter*, from *personal* liability, they must not attempt to use it also as a means to enable them to dispose of the property, to the injury or exclusion of the creditors; but if such attempt *should* be made, I am confident it cannot succeed.
>
> "I have repeatedly stated my fixed determination to obtain a final settlement of all these matters as soon as the object can be accomplished by honorable means; and all who attempt to reach it by any other, will find in me a determined opponent.
>
> "With undiminished confidence in your sincere desire to aid me in all such efforts, I remain, respectfully and very truly, Yours,
>
> "C. H. HUDSON."

A printed Circular from Mr. Hudson, sets forth substantially the facts mentioned in the foregoing extracts from his letters. The matters on the Boston and Portland Line remain, down to this day, substantially as they were in 1850, when I delivered that Line to the company; though this long delay of payment led to a suit on the subject, under the following circumstances:—When Mr. F. O. J. Smith was threatening suit for some alleged claims on the Boston and Portland Line, I protested against any proceedings which should interfere with what I considered the paramount claims of creditors—and Mr. Smith, conceding the justice of that requirement, promised to waive his own claims in any threatened suit so as to give precedence to those creditors.

The foregoing narrative, sustained by records cotemporaneous with the events, shows whether I have at any time allowed any personal feeling to prevent me from properly regarding the rights of Creditors and Stockholders of the Press and the Public—in all the complicated troubles by which I have been surrounded in establishing these Telegraph Lines.

And now, having briefly reviewed the "Relations between the Associated Press and Henry O'Rielly," for the last seven or eight years, let us see whether I have in any respect furnished any evidence of a contradictory course by my transactions in reference to the Nova Scotia Restrictions and the Cunard Letter.

(II.) FACTS CONCERNING THE "CUNARD LETTER"—

The Remonstrance against the Restrictions in Nova Scotia upon Telegraphic Intercourse between Europe and the United States.

The extraordinary misrepresentations which have recently been widely circulated through the United States and British America concerning my letter of last September to the President of the Nova Scotia Telegraph Company, (Mr. Cunard,) render it proper that the facts respecting subjects of such public interest shall be more fully understood—in justice to the Editors and News-Agents in whose behalf I framed that document—and in justice also to the Community whose interests are affected by the principles involved in the restrictions imposed on Telegraphic Intercourse through that Province.

I will endeavor to recite the facts with all the brevity consistent with the various important topics connected with the general question. To those facts I invite the particular attention of "all concerned," and especially of the various Telegraph Officers and Editors with whom my association will probably be more intimate hereafter than it has been hitherto, in connection with the management and extension of Telegraph lines—which facts will show clearly whether I have assumed untenable ground in this discussion, and whether the doctrines of my Cunard Letter are or are not strictly accordant with principles which the Associated Press and the Public have sustained me in asserting on former occasions — PRINCIPLES on which the TELEGRAPH SYSTEM rests the defense of its UTILITY and INTEGRITY.

The industrious malignity with which a pamphlet issued by some anonymous villain, under the "imprint of the Associated Press"—a pamphlet which, though clandestinely circulated all over the land by some one of their agents, that Association have substantially denounced through their Secretary as making a fraudulent use of *their* name to cover the "revenge" of some "news speculator," whose assassin-like attacks are levelled at me for causes that may be understood by any one who examines the facts herein set forth—indicates the existence of some extraordinary knavery that flourishes quietly (unknown to the Nova Scotia Company as well as to the Associated Press) under the "restrictive system" which the Cunard Letter was written by me to oppose.

And now for the narrative:—

IN August last, (1852,) I was informed by Mr. Abbott, of the News-Reporting firm of Abbott & Winans, that many editors through the United States, for whom his firm acted as Agents, had vainly endeavored, for six or eight months previous, to secure EQUAL RIGHTS IN TELEGRAPHING European news between Halifax and the United States.

It was added by those gentlemen, that, having memorialized sundry Legislatures, and caused the passage of several laws for enforcing *impartiality in Telegraphing*—and especially as I had constructed new lines between New-York, Boston and Portland, to enable the "Associated Press" *and the public generally* to enjoy such equal rights between those points—(rights which had been infringed by certain arbitrary rules of the old Morse Company on that route)—it was expected that I would aid in securing an *equally impartial* transmission of Telegraphic business *for all parties* on the remainder of the route—(between Portland and Halifax.)

I replied, at first verbally and afterwards in writing, that the importance of the subject—the nature of the alleged evils, and the extent to which Abbott & Winans and John Wills represented the interests and wishes of editors aggrieved by those evils—should be definitely stated in writing; and that I required ample evidence of existing facts and complaints before I could take any part in appealing to the Nova Scotia authorities respecting the alleged difficulties—adding that, however ready to encounter difficulties in asserting *the right*, I was equally tenacious in first requiring proof of the existence of *the wrong*.

In compliance with my letter demanding specific information and specific charges in the matter of complaint, dated August 10th, 1852, Messrs. Abbott & Winans soon after furnished me with their own written statement, dated Aug. 18th, 1852, and accompanied it by a corroboratory statement which they had in the mean time obtained from Mr. Wills, of Baltimore, dated Aug. 13th—(Mr. Wills representing himself as "Telegraph Agent and correspondent of the *Southern Press generally*," &c.) They also furnished me with their credentials, or letter of authority, from several well-known editors, which latter document embodied similar complaints and similar demands for redress of grievances. This editorial letter of authority was *not* written "a couple of years before," and was *not* designed for "a *different* purpose;" but it was written for *this specific purpose*, as its language strongly shows, in the previous November—since which time, during a period of eight months, as stated by Abbott & Winans, those agents had "repeatedly endeavored," but in "every instance failed," to procure the transmission of "independent dispatches from Halifax" for the editors whom they represented, and under whose authority they were acting—which authority, so far as the Baltimore editors were specially concerned, is in the following words—(and it is published now, for the first time, only to show the real influence which occasioned my letter to Mr. Cunard, seeing the gross imputations which have been thrown upon my transactions in the case:)

TO WHOM IT MAY CONCERN.

We the undersigned have not been satisfied with the manner in which European intelligence, arriving by steamers at Halifax, has been heretofore furnished us through the *Agency* of what is called the "Associated Press of New-York." It is therefore our desire to obtain said news *independent* of the New-York Associated Press, and through such agency as we may designate, *direct, if necessary*, from Halifax.

We acknowledge as among our principal Telegraphic agents and correspondents, Mr. John Wills of Baltimore, Mr. George W. Johnson of Philadelphia, and Messrs. Abbott & Winans of New-York. Any arrangement made with either, or all of these gentlemen, by which they can obtain the news of European steamers from Halifax, *permanently*, and upon *an equal footing with others*, and supply the same to us, will be satisfactory. (Baltimore, Nov. 7, 1851.)

Dobbin, Murphy & Bose, of Baltimore "*American*."
Isaac Munroe & Co., of Baltimore *Patriot*.
Bull & Tuttle, of the Baltimore *Clipper*.
Richardson, Cloud & Hope, *Republican and Argus*.
John Wills, Telegraph agent and correspondent for the Baltimore and Southern press generally, including Washington, Richmond and Charleston papers, and New-Orleans *Picayune*.

With an introduction like this, calculated to command the confidence of all who know the character of the above-named Editors and Presses, Messrs. Abbott & Winans added that similar feelings pervaded most, if not all, of the large body of editors for whom they and Mr. Wills (either jointly *or* severally) acted either wholly or partly as Telegraphic News-Agents and correspondents: And the names of *not less than sixty prominent Journals in all parts of the United States* were presented to me as being interested in obtaining the right of *impartial Telegraphic facilities* (for nothing more was asked) on the Lines of the Nova Scotia Telegraph, between the Maine frontier and Halifax. A catalogue of those Newspapers, collated from the several and separate statements of the gentlemen who thus claimed to represent their views on these Telegraphic questions, presented the array mentioned in my letter to Mr. Cunard, hereinafter re-published.

The substance of the several statements of Messrs. Abbott & Winans and Wills, respecting the grievances complained of by the Journals which they represented, and furnishing instances of the restrictive and exclusive course of the Nova Scotia Telegraph Line, is embraced in my letter to Mr. Cunard, hereto annexed. Circumstances, however, now render it necessary to include in this narrative copies of two other letters from those gentlemen, as I have now included the foregoing credential from the Baltimore editors—neither one of which was enclosed in my letter to Cunard, because I deemed it *needless to multiply statements respecting requests self-evidently correct*, and because, with all deference to the Baltimore editors and to their Agents, Abbott & Winans, *I disliked to see any reflection cast upon the "Associated Press"* for acts which seemed to me chargeable rather to the misconduct of some "Agents" in connection with the Nova

Scotia Line or otherwise. These letters (aside from the Baltimore editorial certificate) specify the extent to which Abbott, Winans and Wills represented themselves as acting for portions of the Editorial Corps through the Union—one of those letters declaring that, besides the prominent Journals specially enumerated, the writer (Mr. Wills) believed that "*more than half the newspapers in the United States* are supplied with telegraphic news by himself and the several agents and correspondents with whom he is connected." The letter of Abbott & Winans of 18th August enclosed to me one which they had received from Mr. Wills, dated the 13th of same month. The letters were as follows:

(Letter from Abbott & Winans, of New-York, Agents and Correspondents of sundry newspapers in all sections of the United States.)

NEW-YORK, August 18, 1852.

HENRY O'RIELLY, Esq.

"DEAR SIR:—In answer to your letter of the 10th instant, with reference to receiving news by steamers stopping at Halifax, we beg to state that *we have repeatedly*, during *a period of six months* at least, endeavored to get over a dispatch of said news in season for use by the respective Journals we represent, and who depend on us for said news; *but have*, in every instance, *failed*.

It appears that an Association of some half dozen of the New-York morning papers have a monopoly of the wires between this City and Halifax; and that the various lines between those points have agreed to not send any other dispatch of steamer's news until the one for the New-York Press is all transmitted and *published*, no matter if it is 24 hours after the arrival of the steamer. The papers enjoying the monopoly of this news, undertake to dictate to the various presses throughout the country, which must abide by whatever rules they choose to adopt. All papers therefore who object to these dictatorial terms, are deprived of the news; and, notwithstanding they are willing to take *an independent dispatch from Halifax*, and have so expressed themselves often through their regular Telegraphic agents, yet, in no one instance have they been able to accomplish it so that the news would be received in season to benefit them—or, in other words, until the news had been *published* by the monopolists—thus causing an entire loss of the money paid for the dispatch.

We have tried repeatedly to get over this news for the papers we represent, but invariably have failed in doing so; and in several instances the dispatches *have been refused transmission* by the operators at the Halifax end of the line, and that even after the money had been tendered in pre-payment for them.

The present unjust system is one that should be broken up; for, as is clearly shown, the present monopoly shuts out a great portion of the Press of the United States, who are willing to take and pay for the news, but who choose to receive it through their own regular and authorized agents—a thing they surely have a perfect right to do.

The following are some of the papers we represent, and who are deprived of the news, because they will not join what they consider an unfair monopoly:—Picayune, New-Orleans; Mercury, Charleston; Standard, do.; Evening News, do.; Herald, Norfolk; Beacon, do.; Argus, do; Gazette, Alexandria; Intelligencer, Washington; Telegraph, do.; Patriot, Baltimore; Argus, do.; Correspondent, do.; Inquirer, Philadelphia; Bulletin, do; Sun, do.; Pennsylvanian, do.; News, do.; Daily Advertiser, Newark; Commercial Advertiser, New-York; Evening Post, do.; Evening Mirror, do.; Times, Hartford; Register, New-Haven; Journal and Courier, do.; Palladium, do.; Transcript, Worcester; Spy, do.; Herald, Boston; Transcript, do.; Journal, Albany; Argus, do; Atlas, do.; Register, do.; Express, do.; Knickerbocker, do.; Post, Troy; Budget, do.; Whig, do.; Times, do.; Commercial, Buffalo; Express, do.; Courier, do; Republic, do.; Rough Notes, do.; Herald, Utica; Gazette, do; Journal, Syracuse; Star, do.; Advertiser, Auburn; Democrat, Rochester; Daily Advertiser, do.; American, do.; Courier, Lockport; Times, Oswego; Journal, do.; Republican, Binghampton, and others that might be given.

We have still further further facts to give you if required.

Respectfully, ABBOTT & WINANS.

(Second statement of Mr. Wills, submitted to Henry O'Rielly by Abbott & Winans, along with their own statement and that of the Baltimore Editors.)

BALTIMORE, August 13, 1852.

FRIENDS ABBOTT & WINANS:

Yours of the 12th instant is at hand. You desire to know what papers I am Agent and Correspondent for.

I am the regular Agent and Correspondent for the following papers, by telegraph and otherwise:—Baltimore Patriot, Baltimore Argus, Baltimore Correspondent, Baltimore Sun, in part; National Intelligencer and American Telegraph, Washington; Gazette, Alexandria; Times, Richmond, in part; Beacon, Herald and Argus, Norfolk; Mercury, Standard and Evening News, Charleston, S. C.

I would remark that quite a number of papers South, and in the vicinity of Charleston, S. C., are dependent upon the Mercury for their Telegraphic news, supplied by me to that paper.

I am also the Telegraphic Agent and Correspondent of the "New-Orleans Picayune."

Also, in part, for the Pittsburgh Journal, and other papers obtaining news from it.

Also for the Republican, St. Louis, Mo., and other papers depending on it for news.

I am likewise the Baltimore Correspondent and Telegraphic Agent for the Inquirer, Pennsylvanian, Sun, News, Evening Bulletin, and Argus, of Philadelphia, through whose Agent many papers in the West and North are supplied with news.

I am likewise the Baltimore Correspondent for the Agents (Messrs Abbott & Winans) of the New-York Commercial Advertiser, Evening Post, and other papers in the city of New-York, who also supply a large portion of the Boston press and the press throughout the States of New-York, New-Jersey, Rhode Island, Vermont, Massachusetts, Connecticut, Maine, New-Hampshire, and elsewhere.

☞ So far as I am able to judge, my firm impression is that MORE THAN ONE HALF THE NEWSPAPERS IN THE UNITED STATES are supplied with Telegraphic news by myself and the several agents and correspondents with whom I am connected.

I will further say that I know of no newspaper proprietors who would not as willingly receive their news from me and those with whom I am connected, as from any other parties—many preferring to do so.

An OPEN AND FAIR COMPETITION IN TELEGRAPH CORRESPONDING IS ALL THAT CAN BE DESIRED.

Any monopoly of the wires by any one party—allowing to them *exclusive advantages* over others—is viewed *by all the papers and parties whom I represent*, as UNJUST IN THE EXTREME, and must, in time, tend to *destroy confidence in the entire Telegraphic system*. Open, fair competition, is most desirable.

I therefore EXPRESS THE SENTIMENTS OF THE PAPERS FOR WHICH I ACT AS AGENT, in condemning all exclusive privileges granted by Telegraphs, and in asking that every Line in the country be THROWN OPEN TO ALL ALIKE—upon the golden rule of "*first come, first served*."

Respectfully yours, JOHN WILLS,
Telegraph Agent, Baltimore.

Having been informed by Messrs. Abbott & Winans that the editors of the "*New Orleans Picayune*" were among the most earnest in demanding EQUAL FACILITIES WITH ALL OTHER EDITORS in transmitting Telegraphic dispatches between Halifax and New-Orleans, and being further informed that Mr. Holbrook, of the "*Picayune*," who was then visiting in the Northern States, would soon again be in New-

York, and add his personal request in support of what the editors of the above-named journals generally were represented as desiring, I telegraphed him as follows, on the same day that I wrote to Abbott & Winans demanding specific facts and allegations on the subject of their complaints:

New-York, Aug. 10, 1852.

"Mr. HOLBROOK, editor '*Picayune*;' now at Harrisburg or Lancaster:

"Abbott & Winans say you want dispatches from Europe *direct*, via Halifax; but you fail to get them. If you and other editors want such abuses corrected, let me know the facts, and the work will be done. Will you be in New-York soon? HENRY O'RIELLY."

Mr. Holbrook replied; and, when visiting New-York about the close of the month, he called on me concerning the subject, and confirmed the representations which the agents, Abbott & Winans and Wills, had made to me respecting the desire which he, in common with many Southern and Western journalists, felt with reference to UNFETTERED TELEGRAPHIC INTERCOURSE across Nova Scotia with the European steamers at Halifax—intercourse EQUAL AND IMPARTIAL, like that which law and custom had secured to the public in all the States on "our side" of the British-American frontier.

The grievances complained of were such as, if existing in the United States, would subject the offending parties to punishment for misdemeanor in the shape of fine and imprisonment; and it was not doubted that, when the complaints, sustained by such respectable authorities among the American press, were respectfully presented for the consideration of the Nova Scotia Telegraph Company, the evils would be speedily corrected by an enforcement of the first rules of telegraphing—rules providing that the lines should be OPEN IMPARTIALLY TO ALL PERSONS, on the principle of "*first come, first served.*" Much of the most important correspondence between the Old and New Worlds is transacted by Telegraph. The European news, in the shape of *Telegraphic dispatches*, affect the values in all markets of America—being in advance of all postal correspondence. Were any attempt made by the Cunard steamers or the Nova Scotia Post-Office Department to discriminate or restrict the transmission of *letters* brought from Europe *via* Halifax, for people in the United States, would it or would it not be a subject for general popular consideration, if not for remonstrance on the part of governments on both sides of the Atlantic?

Having thus received evidence which could not consistently be disregarded, touching the wishes of such a large portion of the public Press, in all sections of the United States—the editors and agents of which journals desired ***nothing more than that*** IMPARTIAL JUSTICE ***which even the humblest individual is*** NOW ***able*** *successfully to demand from the Telegraph System in the United States*—I complied with their requests, by preparing and forwarding a letter to Mr. Cunard, who had then recently been elected to the Presidency of the Nova Scotia Telegraph. In that letter, I endeavored briefly to state the case which was submitted through me to him for the action of his Telegraph Company; and accompanied my letter to him with *one* of the two documents, signed by the Baltimore editors, and by *one* of the two statements of Mr. Wills, in the shape in which my letter and those statements were published in the October number of the "*American Telegraph Magazine.*" Copies of that letter and those statements are annexed; and to them I invite the attention of "all whom it may concern"—(and it *does* concern the public interests, as well as the interests of the Press and the Telegraph)—for the purpose of having it seen whether any just exception can be taken by any person towards any action or expression of mine concerning the important subjects under consideration. As further indicating the spirit in which these matters were presented to Mr. Cunard, and published in the *Telegraph Magazine*, it is but justice to the editor of that Magazine to quote the remarks with which he preceded the publication of my letter and its accompanying papers from Mr. Wills and the Baltimore Editors:—

(From the Am. Tel. Magazine, Oct. 1852.)

Telegraphing between Europe and the United States—Restrictions in the British Provinces.

It would be difficult for any of us to forget the commotion excited two or three years ago, in consequence of the restrictive measures which some of the Eastern Telegraph Lines adopted in reference to the "Associated Press." For a time, there was a serious breach in the Lightning Lines, so far as the Press were concerned, and extra railroad locomotives had to be chartered, at great expense to the editors, in order to transmit in that way from Portland the dispatches from Europe, (via Halifax,) which were refused transit over the Telegraph lines between Portland and New-York. It is also remembered that this was one of the stimulants which influenced Mr. O'Rielly to construct new lines, under Bain's Patent, between New-York and Portland, in which he was encouraged by the New-York "Associated Press," the editors in which Association were thus enabled to secure the uninterrupted transmission of their dispatches by *Telegraph the whole way* between Halifax and New-York. So much for reminiscences on a subject that excited embittered controversy and unmeasured denunciation for a considerable time.

Now for a later phase of a similar spirit!

But we have at least the satisfaction of knowing *now*, that the difficulty lies not with any Telegraph in the United States. The trouble at present is among Her Majesty's loyal subjects on the other side of the Provincial Line. The Nova Scotia Telegraph, on which the difficulties occur, is said to have lately passed into the hands of a Company of which Mr. Cunard (residing at Halifax) is President. We learn this with great satisfaction; and the public cannot doubt that that gentleman has too high a regard for his own reputation to permit any abuse to remain long uncorrected, where he has the power (as in this case) to comply with the demands of justice. It cannot be possible that he and other distinguished gentlemen who control the Nova Scotia Line will permit the abuse to continue for a single day after their attention has been distinctly called to the subject, in the manner set forth in the following letter from Mr. O'Rielly to Mr. Cunard—sustained, as that letter is, by the document signed by numerous editors in behalf of themselves and their associates, in various cities of the United States. The subject is highly important to the business world on both sides of the Atlantic:

Mr. O'Rielly's Letter to Mr. Cunard.

New-York, Sept. 6, 1852.

Samuel Cunard, Esq., President Nova Scotia Telegraph, Halifax:

Sir:—At the request of parties representing the interests and feelings of a large section of the Press in the United States, I take the liberty to submit for your consideration the complaints engendered by the alleged restrictions upon Telegraphic intercourse over the Nova Scotia Line. As it is understood that that line has lately passed into the hands of a company over which you preside, I cannot doubt that immediate attention will be paid to remonstrances which have, for some unknown cause, failed to secure even an acknowledgment from the former officers to whom they were addressed.

One of the three memerials or remonstrances which I now enclose you, emanates from and is signed by the editors and publishers of the *Baltimore American*, *Baltimore Patriot*, *Baltimore Sun*, the *Republican and Argus*, and the *Baltimore Clipper*.

The second is presented by Messrs. Abbott and Winans, of New-York, who represent themselves as agents for more than sixty prominent newspapers between New-York and New-Orleans; and similar complaints were lately addressed to me personally by one of the publishers of the *New-Orleans Picayune*. Messrs. A. & W., thus acting as agents for a large portion of the Press, allege that they "have repeatedly, during a period of six months at least, endeavored to get over the Nova Scotia Line a dispatch of steamer's European news *in season for use* by the respective journals they represent, and who depend on them for said news, but have, in every instance, failed;" "and in several instances," it is further alleged, "the dispatches have been refused transmission by the Telegraphers at Halifax, even after the money had been tendered in pre-payment for them." And it is further charged by those agents, in behalf of the journals which they represent, that, "notwithstanding they are anxious to get independent dispatches from Europe *via* Halifax, and have so expressed themselves often through their regular Telegraphic agents, yet in no one instance have they been able to accomplish it so as to receive the news *in season to benefit them*, or, in other words, until the foreign news had been *published* by the favored parties; thus causing an entire loss of the money paid for such dispatches." It is also alleged that all these difficulties are occasioned by the fact that the Nova Scotia Telegraph will "not send any other dispatch of steamer's news until the one for the *favored* parties is all transmitted and published," no matter if it is twenty-four hours after the arrival of the steamer."

The third remonstrance comes from Mr. John Wills, of Baltimore, long known as one of the most efficient news agents for the American Press. Like Messrs. Abbott & Winans, Mr. Wills names many of the journals in whose behalf he complains of present restrictions, and asks only for *equal rights* in corresponding over the Nova Scotia Telegraph; so that dispatches shall be sent over the line from Halifax in the order in which they are received from Europe, on the arrival of steamers at your city.

In addition to all the Baltimore journals already named as speaking directly through their editors, Messrs. Wills and Abbott & Winans represent themselves as acting and speaking in behalf of the following journals, the general character of which renders it needless to mention more than their names, in evidence that the complaints with which those names are connected are worthy of the respectful attention which I am sure they will experience at your hands. They are:

The National Intelligencer and the Telegraph at Washington;
The Commercial Advertiser, the Evening Post and Evening Mirror, at New-York;
The Picayune, at New-Orleans;
The Charleston Mercury, the Standard, and the Evening News, also at Charleston;
The Herald, the Beacon, and the Argus, at Norfolk;
The Argus, the Evening Journal, the Atlas, the State Register, the Knickerbocker, and the Express, at Albany;
The Gazette, at Alexandria;
The Inquirer, the Sun, the Evening Bulletin, the News, and the Pennsylvanian, at Philadelphia;
The American, the Patriot, the Sun, the Republican and Argus, and the Clipper, of Baltimore;

The Daily Advertiser at Newark, and the Times at Hartford;
The Register, the Journal and Courier, the Times, and the Palladium, at New-Haven;
The Spy, and the Transcript, at Worcester;
The Herald, and the Transcript, at Boston;
The Whig, the Budget, the Times, and the Post, at Troy;
The Commercial Advertiser, the Express, the Courier, the Republic and the Rough Notes, at Buffalo;
The Herald and the Gazette, at Utica;
The Journal and the Star, at Syracuse;
The Advertiser, at Auburn; and the Republican, at Binghamton;
The Daily Advertiser, the Democrat, and the American, at Rochester;
The Courier, at Lockport;
The Times, and the Journal, at Oswego.
Mr. Wills also represents himself as agent in part for The Republican, at St. Louis; The Times, at Richmond; and the Pittsburg Journal; and indirectly for many newspapers obtaining news from what he furnishes to the establishments named.

In addition to this specific enumeration, Mr. Wills expresses his opinion that "*more than one half the newspapers in the United States* are supplied with Telegraphic news by himself and the several agents and correspondents with whom he is connected." And he adds: "Any monopoly of the wires by any one party; any allowance of exclusive advantages, is viewed by all the papers I represent as unjust in the extreme; and must, in time, tend to destroy confidence in the entire Telegraphic system. *Open and fair competition is most desirable.*"

Such an array of remonstrants among the Press was probably never before combined for the repression of any grievance; and, as they ask of the Nova Scotia Telegraph Company *nothing but equal and exact justice* in the transmission of dispatches to them *in the order in which they are furnished at Halifax*, I deem it needless, in addressing you, to add a single word beyond the simple presentation of the case—convinced as I am that your official and personal influence will be promptly used with the Nova Scotia Telegraph Company, to cause a change of the present rules, and to insure to all journals and to all individuals the right of having their dispatches transmitted *in the order in which they are received;* that the rule of "first come, first served," may prevail in your Province, as law and public opinion require it to prevail in the United States.

The circumstances will probably justify me in adding a word of explanation somewhat personal to myself, in connection with these Telegraphic arrangements and remonstrances. Unfortunate difficulties between the "Associated Press" and some persons connected with the Eastern Telegraphs, caused such a schism, three years ago, that the Press were compelled for a while to hire railway locomotives for transmitting their dispatches from Portland to New-York, between which points the then sole Telegraph Line refused to transmit such dispatches unless the Press submitted to restrictions which they pronounced unjust and inadmissible. This state of things, and the encouraging voice of the Associated Press, induced me to establish new lines (on which Bain's patent was used) between Portland and New-York; *since which time*, I believe, no undue restrictions and no exclusive privileges have been allowed on the lines *this* side of Her Majesty's Provinces; and the same spirit which influenced me then, *induces me now to comply with the request of a large portion of the American Press* in asking that *the Telegraph through Nova Scotia*, like the gallant steamers which transmit the news between Liverpool and Halifax, shall "act like a common carrier—*open to the use of all, upon equal terms*"—"permitting *no exclusive privileges to one party over another* in the transmission of news"—a matter important alike to the European as well as the American commercial world. Respectfully yours,

HENRY O'RIELLY.

(Referred to in the foregoing.)

To the Directors and Proprietors of the Telegraph Lines extending from Halifax, N. S., to St. John, N. B., and N. B., and connecting with Telegraphs in the United States.

Having been informed that the lines of Electro-Magnetic Telegraph, extending from Halifax, N. S., to St. John, N. B., and thence connecting with various Telegraph lines in the United States, constantly permit *exclusive privileges to one party over another in the transmission of news;* we, therefore, take this occasion to express our decided disapprobation of this mode of managing and using any Telegraph. We consider it fair and just that the Telegraph, as a common carrier, *should be open to competition*, and to the use of all, *upon equal terms.*

Believing, therefore, that the public at large should be accommodated upon an equal footing by all Telegraph lines and companies, and that monopoly by them, or the granting or permitting of exclusive privileges to one party over another, is not only contrary to the declared intention of the inventor, but adverse to the spirit of the age and to the course of strict justice—entertaining these opinions, we hereto subscribe our names, *hoping for a speedy remedy of the evil*, and that we may be *enabled to obtain dispatches* DIRECT *from Halifax*, or from any other point, such as we may desire, either individually or through our authorized agents, upon *an equal footing* with any other party or parties. Respectfully yours,

DOBBIN, MURPHY, & BOSE, *of Balt. American.*
ISAAC MUNROE & Co., *of Baltimore Patriot.*
A. L. ABELL & Co., *of Baltimore Sun.*
BULL & TUTTLE, *of Baltimore Clipper.*
RICHARDSON, CLOUD & HOPE, *Republican and Argus.*

As Telegraph Agent and correspondent for the Baltimore papers, and a large majority of the Southern newspaper press from Baltimore to New-Orleans, including the principal papers of Washington, D. C.; Richmond and Norfolk, Va.; *Charleston Courier;* and other papers in Charleston and the South, receiving news through me from the *Courier*, and the *Picayune*, New-Orleans,—I feel justified, in their behalf, in stating that it is their desire to have *all Telegraph lines thrown open to honorable and fair competition.*

Fully sensible of the justness of the remarks set forth in the foregoing petition, and of the universal desire of all newspaper publishers for whom I act as agent and correspondent, that the *Telegraph should be open to all*, upon *an equal footing*, I therefore cheerfully commend the foregoing petition to the consideration of those concerned.

I speak also on behalf of a large portion of the Western press, for whom I act as agent and correspondent. JOHN WILLS.

(Abbott & Winans' letter is of a similar character.)

☞ Such is the "Cunard Letter," for which one of their anonymous employées is falsely using the "imprint of the Associated Press" for the purpose of libelling me—and such the letters and certificates, or "memorials," which the same libeller says were "fraudulent," and that I "knew them to be fraudulent."

The leading motive for my assenting to the *publication* of my letter to Mr. Cunard was, as stated in a note covering the printed letter which I enclosed to him in the "Telegraph Magazine," that said *publication* might "*prevent any misapprehension* concerning the nature of the movement," as I had nothing to conceal in a movement which concerned the Public more than it could concern any single individual like myself.

At the time these complaints were made to me in August, and for some time after, the Halifax (foreign news) dispatches of the "Associated Press" were transmitted over the lines which I constructed between New-York, Boston, and Portland, as a part of the route; and a refusal on my part to aid in securing to *the Press generally* the same equal rights on the Nova Scotia end of the route which I had built Telegraph lines and invoked Legistures to secure for *the public* on "our side" of the British-American frontiers, might subject my associates and myself to the imputation of being unduly influenced by personal and pecuniary considerations, pernicious to public confidence in the Telegraph system. Circumstances at the time indicated that some insidious influences were fomenting jealousies between the Associated Press and the New-York and Boston Union Line; and I was not unmindful that my compliance with the demands of one large section of the public Press would probably be tortured, as it has been tortured, into pretext for vilifying me with another important portion of the newspaper world. I felt assured, however, that an Association powerful and enterprising as "*the New-York Associated Press*," *required no exclusive or improper privileges*—no monopoly of the Telegraph lines—*in order to compete successfully with any other company of journalists; and, although my course would not have been different* EVEN WERE IT OTHERWISE, I did not believe that the editors of the distinguished Journals constituting that "Associated Press," who had cheered my efforts for establishing lines that enabled them to transact Telegraphic business without being compelled to run extra railroad trains to carry dispatches which the Old Morse Company at one time refused to transmit for them over *a part* of the route between New-York and Halifax, would condemn me for advocating the INDEPENDENCE and IMPARTIALITY (as inseparable from the INTEGRITY) of the TELEGRAPH SYSTEM, *beyond* as well as on *this side of* the Nova Scotia frontiers. With this feeling I forbore to name the "Associated Press" in the letter to Mr. Cunard; and I forbore also from sending or using two documents which I possessed, as before-mentioned, in which the complainants spoke of the "Associated Press" as "monopolists" in these matters—my belief being then, as it is now, that, whatever evils existed then, or exist now, are attributable either to the neglect of proper rules by some officers of the Nova Scotia Telegraph, or to the "agency" of persons who use the name of the "Associated Press" for obtaining Telegraphic facilities beyond the knowledge or wishes of the editors composing that distinguished Association—editors, with some of whom I have been on friendly terms for the last quarter century, and by most of whom, personally and through their several journals, I have been often encouraged during that long period in various matters of public importance connected with political and other reforms and improvements. That I am not alone in these opinions, may be seen before the conclusion of this article, and, if necessary, still more clearly seen practically hereafter.

Justice to others, if not required by myself, renders it proper for me to add, that, so far from my course in these matters having been instigated or influenced by Mr. Francis O. J. Smith,—between whom and myself it is alleged that a coalition was formed *in hostility to the Associated Press!**—Mr. Smith knew not the contents of my letter to Mr. Cunard till he found it printed in the October number of the "*American Telegraph Magazine*," (printed about the 18th September,) in which work it was published at the request of the editor, who considered the subjects interesting to the Press, the Telegraph, and the Public. The publicity thus given to the matter, it may be incidentally remarked, indicated my consciousness that I had written nothing and asked nothing which might not challenge public scrutiny at least for CONSISTENCY and SINCERITY OF PURPOSE.

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* The "Settlement of December, 1851," which had reference *solely* to the controversies between the Morse Patentees and myself, about *western* lines, is elsewhere published in this narrative.

In fact, so utterly independent was I of any connection or consultation with Mr. Smith touching my correspondence in behalf of the complainants about the Nova Scotia line, and so little was he disposed at that time to take any course inimical to the Associated Press, that it is due to all parties to quote from his letter of the 2d September, (which reached me from Portland the day before my letter to Mr. Cunard,) the statements which he (Smith) wrote in reply to my inquiry "whether there was any truth in the allegation set afloat by some person that he might use his power to overthrow the relations then existing between the Associated Press and the *Union* Telegraph Company." Mr. Smith's letter said:

"I have long since ceased to feel any uneasiness towards the Associated Press. I hope never to have occasion to feel any again. As for taking advantage of my power in the Union Line to disturb the New-York Press, it would be *both madness and folly to do so.* Had I cherished one lurking purpose of the kind, I certainly would not have consented to the *giving of power to a committee of the Union Line*, (consisting, two in three, of the *uniform friends* of the Associated Press, (*Marshall Lefferts*, Esq., and his brother John,) to *make a contract with the Association* for *an indefinite period*, limited only by *their discretion* and *the wishes of the Press.* The fact is, the Press mistakes me wholly. *Now that they have ceased to assail me*, I can cheerfully coöperate with them, and would cheerfully oblige them."

It is worthy of particular remembrance, in this connection, that the negotiations for the union of the New-York and Boston and Boston and Portland Lines were made between Mr. F. O. J. Smith and (not me, but) Mr. Marshall Lefferts, which latter gentleman was then President of one of the companies, and was eulogized as a particular favorite of the Associated Press: And it is here shown that he (Lefferts) was one of a committee authorized by Smith and his associates to bind the *Union Telegraph Company* in bonds for the faithful transaction of business on the usual terms, for an "indefinite period"—five years, more or less, as the Associate Editors might prefer: and this, too, at and after the time when I was interceding with Mr. Cunard for a modification of the rules of the Nova Scotia Telegraph in behalf of other editors and the public generally, though by no means in hostility to the "Associated Press," as all the record shows.

I may add that, on the 7th of September, (the day after my letter to Mr. Cunard, and after sundry merchants who are stockholders in the New-York and New-England *Union* Telegraph had spoken with me on the subject,) I addressed a letter to Gerard Hallock, Esq., of the *Journal of Commerce*, who is President of the Associated Press, of which a portion was in the following words:

"Some information has reached me respecting the subject of our late conversation, which, in accordance with the wishes of some of many parties interested, and deeming it just to yourself and your Association, I respectfully submit for your consideration:—A committee was actually appointed by the *Union Telegraph Company*, as I am told, to *make arrangements with the Press satisfactory* for a period of any extent up to *five years*, or *even longer*, if desired—a fact which utterly removes the apprehension you expressed; *i. e.*, that after the lapse of less than *one* year, the Press might be left subject to arbitrary rules and exactions in the transmission of their news dispatches. As this was the only subject which you mentioned as countenancing the alleged necessity for abandoning the present line and making new arrangements with another line, I deem it needless to add another word to stimulate your sense of justice to an inquiry *why* it was that *you* should be left uninformed of propositions so important to your press and other presses, and to some persons who staked money and effort for the construction of lines which never yet fully paid their cost and expenses; *on which lines*, I believe, you all admit that *the Press has had fair play.* Could any thing fairer be offered to any person, or press, or Association?

"In the same friendly spirit with which you have spoken with me, I may add the belief that there are *influences at work* in these *matters*, which require only to be known to be spurned by those who, like yourself, ask nothing but the right of PLAIN SAILING, and FREE TRADE, with FAIR COMPETITION, upon an OPEN SEA. The *Telegraph*, like the *Press*, suffers from the conduct of some who are *allied* in the unworthy game; and, after inducing people to aid me in building the lines which insured *equal rights and full justice to the Press*, I should deem myself recreant to their interests if I failed to aid [at their request] in having the facts laid promptly before you."

Germane to these subjects, and indicating some of the sources of difficulty in the connections between the Telegraph and the Press, the following letter may be introduced here—a letter which, though not designed for publication, I have no reason for suppressing now when my course upon such questions is so grossly misrepresented by anonymous slanderers:

"NEW-YORK, Sept. 22, 1852.

"GERARD HALLOCK, Esq.:

"DEAR SIR:—I did not receive your note till after you left town; and since then, circumstances prevented my replying till now.

1. "My last letter to you embodied all of the substance of our conversation—namely, that portion respecting the offer of the New-York and New-England *Union* Telegraph Company to transmit intelligence *for five years*, more or less, on at least equally favorable terms as at present, for the Press—which I designed to address to *your associates* as well as yourself. I deemed this proper in justice to all parties, as, in a previous conversation, you expressed apprehension that the Press might be subjected to annoyance or extra charges after the close of the present year. I certainly would not have importuned for business for *myself*;

2. "On the other subject of our conversation, I repeat what I stated to you, that what I mentioned was for the purpose of inviting *your own observation*, if you thought

proper to consider the subject respecting the propriety of any agent, who receives the *Press dispatches*, acting also as agent, informant, or correspondent for men engaged in any branch of traffic which is usually influenced by news from Europe, especially *while the news from Europe is prevented coming over the Nova Scotia line to any but the* AGENTS *for the 'Associated Press,'* in various cities of the Union—such agents obtaining this great power over the *news* and *markets* solely under the supposition that the news is *exclusively* for *the Press.* You concurred with me in the opinion that such a practice should *not* exist, if it does exist; and on that subject I may say, without criminating any one, that I believe such agencies do exist; and, so believing, I addressed you confidentially, that you might satisfy yourself, if you chose, by your own inquiry or observation, and apply the remedy quietly, if you thought remedy needed. I considered this due to you, as a senior of the Press, from one who has endeavored always to consult the first requirements of the Public and the Press in reference to the Telegraph.

3. "The complaints frequently made in some of the papers, show that there is considerable difficulty *somewhere* about the news from *Europe.* It must either be with the *Telegraph* or with the *news agents.* If with the *Telegraph,* I unite with the editor of the new *Telegraph Magazine* in expressing the hope that the faithless Telegraphers (and there are doubtless some few, as you will perceive from what that Editor says) may 'receive the same amount of public justice and indignation as is meted out to other candidates for the penitentiary and whipping-post.' And it is with the view, in part, of *seeing where the errors and difficulties lie generally,* as well as for *guarding against recurrence of them,* that I respectfully invited your personal attention, as opportunity might quietly offer, to satisfy yourself of the fact whether or not any of the agents or correspondents who received the news from Europe for *the Press,* were or were not acting ordinarily as agents or informants of merchants and traders, or others besides the Press. The *possession of the news about European markets by these few news agents,* so long before others know any thing about them, in many cases—as *no other person or press can receive news from Europe viâ Halifax,* owing to the restrictions on the Nova Scotia line, till all is not only received but put in print at New-York, no matter how many hours' delay occur in the printing—is a *power so vast* that, with the *news agents,* as with the *Telegraphers,* it requires to be *carefully considered,* and *its abuse guarded against.*

4 "Were any legal proceeding now instituted, which might *compel* the *attendance* and *answers* of witnesses, it would afford some means of reaching the facts concerning the abuses which may have occurred among news agents or Telegraphers in these matters *in the past;* and from the nature of the cases mentioned in the *Telegraph Magazine,* (pages 1, 6, 7, 10, 17, &c.,)* it seems probable that such investigation will soon take place under judicial authority, as you will see there is a determination in that magazine to hold Telegraph companies and Telegraphers to the *strictest accountability,* while at the same time asking that the *opportunities for abuse* on the part of *news agents for the Press* shall be so barred by the seniors and responsible editors of the Press as to prevent the news from being seen or used by any one except for the Press. Of course, this remark *has reference only to such news as the Press obtains by extraordinary privileges over the Telegraph,* under the expectation that the news is for the Press *solely* until its publication. Were the Nova Scotia line *open to all persons* in the *order in which they might offer dispatches,* then there would be *a free field for all,* and none could complain; and the news obtained from Europe by one set of agents, for one set of journals, would render it impracticable for any other news agents or Telegraphers to find much inducement for violating their trust by "fabricating" or "making merchandise" of the news. You see that there is no disposition to exempt *the Telegraph* from the most stringent rules; on the contrary, the aim is, so to guard against misuse of the news for the "Associated Press" or other journals, that, if any revelations are made of such news, the blame may be more readily traceable, and the condemnation fall with unmitigated severity upon *the Telegraphers* through whose hands the news passed.†

5. "The efforts I have made, from the earliest day of Telegraphing down to the present time, to establish and enforce rules, where I had any influence, for furnishing reliable Telegraphic facilities at *reasonable rates,* (efforts which, I may remark with a lively sense of gratitude, have been so long and steadily acknowledged by the Press generally, and particularly by the *Journal of Commerce,* and others of the New-York Associated Press,) are and will be continued in my renewed and extended connection with the Telegraph system; for the advancement of which system, in a just and elevated course, I look now, as I have long looked, to the opinion of *the Press;* and to no portion of the Press with such peculiar interest as to the Associated Press of New-York, in reference to whose wishes I constructed the lines between New-York and Boston and Portland—lines which freed them from the difficulties that previously embarrassed the transmission of their European news.

6. "The importance of the subject, and the respect which I have long cherished for yourself, have led me to speak thus freely to you in reference to the subject of our conversation; and if in any thing I am mistaken, I trust to your own generous spirit to believe that no one will more readily acknowledge error.

"Yours truly, HENRY O'RIELLY."

The occasion furnishes opportunity for saying that, excepting only so far as respectfully receiving and acting on their complaints in behalf of such a large portion of the American Press, I have had as little connection with Messrs. Abbott, Winans and Wills, or any other News Agents, as I had with Mr. F. O. J. Smith in these matters. The fact is well known to most of the principal Telegraphers and to some Telegraphic News Reporters, as well as to various Editors, that, for reasons briefly mentioned in the foregoing letter of 22d September to Mr. Hallock, President of the Associated Press, I am not favorable to the existing mode of Telegraphic reporting for newspapers by persons *who are at the same time acting as private agents and correspondents of business-men interested in having the earliest intelligence about markets, &c.*—as I believe it to be susceptible of great abuses, which should be guarded against, *and productive* of difficulties unjust towards the Public and pernicious to the Telegraph. Hence, I am one of the last persons who would seek any change in Telegraphic arrangements for the mere purpose of favoring *one* class of Telegraphic Reporters instead of another—my wish being to prevent evil by securing EQUAL RIGHTS to all—relying on SALUTARY COMPETITION as the most efficient corrective of error and abuse. I know well the extent and bitterness with which I am assailed by interested parties for maintaining these positions—of which bitterness, the recently published pamphlet, hereafter more particularly mentioned, furnishes a memorable example—though it is not the first time that I have encountered abuse for asserting doctrines which finally vindicated their own truth against all assailants.

In connection with these statements, I may add that, having discharged what was considered a duty from me towards a large portion of the newspapers, in regions through which I have constructed several and am arranging to construct more Telegraph Lines, I have taken no active part in the matter since dispatching my letter to Mr. Cunard last fall:—And I had no connection with, or knowledge of, the late effort to establish an "Opposition Telegraph Line across Nova Scotia"—of which effort, the following notice was published in the shape of a "dispatch from Halifax" in the Telegraphic columns of the Associated Press, on the 18th of March, 1853:

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* The *Telegraph Magazine* for *October* was issued about 15th *September,* before this letter was written.

† Of which dereliction of duty on the part of some Telegraphers, who plundered and sold to a rival news agent in the intelligence contained in dispatches transmitted by agent of the Associated Press, some proofs are furnished in the *American Telegraph Magazine* for December, January, February and March.—*Ed. Tel. Mag.*

> "The attempt to obtain a charter from the Provincial Parliament for an opposition Telegraph line from Halifax to the boundary of New-Brunswick met with a signal failure to-day by a vote of 67 to 16. The applicants for the charter vainly endeavored to excite a prejudice against the present Telegraph Company, of which the Hon S. Cunard is President, on the ground of its alleged partiality to the New-York Associated Press. And the decision may be regarded as *a fair expression of public sentiment* in favor of the policy and justice of the existing arrangement between the Halifax line and the Associated Press relative to the transmission of the steamers' news."

In thus disclaiming all connection with that movement for an independent Telegraph System in *Nova Scotia*, I must not be considered as reflecting on its propriety—inasmuch as I, like the Editors of the Associated Press, have always favored the most liberal general laws in the *United States* for the extension of Telegraph Lines by any and all parties who choose to employ energy and capital in that way—as the best means of freeing the Telegraph System from the jealousies and abuses which commonly beset all enterprises where different policy is pursued. In all my memorials to Legislatures, and in other efforts for establishing Laws and Lines in accordance with these views, I have had for eight years the support and encouragement of some or all of the Associated Presses, as well as of the Press generally throughout the Union: and hence, if for no other reasons, I do not believe that the *Editors* of the Associated Press (whatever any of their agents may assert in "Halifax dispatches" or slanderous pamphlets) have changed *their* grounds, as I certainly have not changed my ground, in reference to the principle of IMPARTIAL and UNFETTERED TELEGRAPHING. It is a coincidence worthy of peculiar notice in this connection, that it was some of the Associated Presses (as for instance the "Courier & Enquirer," whose remarks are now before me) which, in reviewing my first Proposal for extending the Telegraph System by individual enterprise throughout the United States, in 1845, (eight years ago—before a mile of Telegraph was built by private enterprise in America,) expressed the keenest sensitiveness and the liveliest commendation respecting that particular portion of my Proposal which declared that "the Telegraph is "an agency which can properly and safely be "in custody of those only under whose administration of its almost superhuman facili-"ties, it would be kept *alike open to all*, and be "*monopolized by none;*" and that it is made a "fundamental rule in the organization of Tele-"graph Companies, that *all persons shall be* "*served on equal terms*—'FIRST COME, FIRST "SERVED'—*without respect to wealth or sta-*"*tion.*" "We have heretofore expressed apprehensions," said the Courier & Enquirer of July, 1845, when commenting on this portion of my first Proposal, "that this vast and tre-"mendous engine, by resting entirely in the "hands of individuals, might be exercised often "for the promotion of selfish purposes, to the "public detriment: But we are free to say that "the patentees have made regulations, in refer-"ence to this matter, which will go far to "prevent, if they do not render impossible, "any such abuse of the immense power "which the Telegraph must confer upon any "persons in whose hands it rests."

Of course, there can be no serious objection to any presses and persons buying, building or leasing Telegraph Lines for their own special accommodation—*provided the same privilege is thrown open*, under general and equitable laws, as in the United States, *for all other presses or persons* to organize OTHER LINES for their own particular use, or for the *impartial accommodation of the Public.* What is right and expedient in Telegraphing in the United States cannot be wrong in Nova Scotia; and it is doubtless alike unjust towards the "Associated Press" and the people of Nova Scotia, to allege that the first-named body seek thus to maintain, and the latter body approve, in that Province, a monopoly condemned by telegraphic laws and by public opinion throughout our Federal Union. Some other motives and influences must have caused the abovementioned results in the Nova Scotia Parliament; for who can believe that the People or the Parliament of that Province will, *when the question is distinctly presented on broad grounds of principle and policy*, refuse to pass either general or special laws encouraging (instead of opposing) any companies that may be desirous of employing capital and enterprise in constructing Telegraph Lines through their Province, for increasing the facilities and promoting the impartiality of Telegraphic intercourse between Europe and the United States?

Repelling the pretensions of some Journalists who professed to obtain foreign news via Halifax in advance of, or as soon as, the Associated Press, one of the employees of the latter exposed and denied those pretensions, by stating the impossibility thereof, in consequence of the *exclusiveness* of the privileges of the Associated Press, as set forth in the following passage published in one of the Associated papers on the 21st August last, during the period when the complaints were being presented to me by the agents of the Baltimore and other Journals against such exclusiveness:

"Now, these parties have never received, "and they *cannot receive*, a single word of "news over the Halifax wires, from the time "the steamer is signalled off Halifax until *after* "*the receipt, by the associated press of this* "*city, of their dispatch of three thousand* "*words*. Nor can any other party, under any "but the most urgent necessity, and then only "with the consent of the Association. Any "one, therefore, who professes to have received "the foreign news via Halifax, in advance of, "or even *simultaneously* with the Associated "Press, may be safely put down as a cheat."

And, in reference to the arrangements of the "Agents of the Associated Press" for *exclusive* privileges in transmitting business intelligence for their own personal emolument, *in advance of all other private communications*," the following card is deserving of special notice:

"*Telegraphic Communication between America and Europe.*

"JOHN HUNTER, *Agent* in England of the *New-York Associated Press*, respectfully begs to announce to the Mercantile and Business community that TELEGRAPHIC DISPATCHES to and from any part of Britain, or the Continent of Europe, will be punctually forwarded if confided to his care.

"Dispatches should be forwarded as early as possible before the sailing of the steamers, in envelopes, unsealed, and addressed TELEGRAPHIC. Agents: –

"IN LIVERPOOL – J. HUNTER, No. 2 Paradise-st.
IN HALIFAX—R. NUGENT, Editor of the Sun.
IN BOSTON—W. G. BLANCHARD, Office of the Mail.
IN NEW-YORK—D. H. CRAIG, Office of the *Associated Press*, No. 3 Hanover-st., (up stairs.)
IN PHILADELPHIA—W. W. FULTON, Ledger Building.
IN BALTIMORE—C. C. FULTON, Sun Building.
IN CHARLESTON—A. CARROLL, Courier Office.
IN NEW-ORLEANS—E. FULLER, Merchants' Exchange.
IN LOUISVILLE—J. W. CLARKE, Courier Office.
IN CINCINNATI—R. SMITH, Merchants' Exchange.
IN BUFFALO—A. D. LEVIEN, Commercial Office.

☞ "Correspondents in Europe should, to insure promptness in the delivery and transmission of dispatches, forward their communications for the United States through the Agency at Liverpool. By so doing, *their dispatches* will be transmitted over the wires *in advance of all other private communications*, on the arrival of the steamers at Halifax, Boston, or New-York.

"Charges moderate, and accuracy and reasonable promptness in the transmission of dispatches guaranteed, or the money will be refunded.

"J. HUNTER, Telegraph Agent, No. 2 Paradise-st., Liverpool, England, and General Agent in England for the lines of Telegraph between Halifax, Nova Scotia and New-York."

It is needless to multiply words in commenting on the positions assumed in the two foregoing quotations. Such restrictions and such uses of the Telegraph are wholly incompatible with the public laws and Telegraphic rules in the United States. Were similar exclusiveness or favoritism attempted in the Nova Scotia *Postal* Department, the business-men and the governments on both sides of the Atlantic would scarcely submit patiently to the restrictive arrangements, after the facts became fully understood. No Telegraph Companies or Telegraph officers in the United States will dare acknowledge that they have allowed such privileges to particular parties for the transaction of business "in advance of all other private communications." My knowledge of some of the "Agents" above-named forbids me from believing that they *all* concurred in these operations. I *know* that some, and believe that *all*, of the Associated Editors were unaware of the use thus made of their cloak to cover private business "speculations" in Telegraphing, as I also *know* that *some* and believe that *all* of those Editors were unaware of the manner in which some of their employees have used the cover of the "Associated Press" to screen their personal "revenge" upon me for the tenor of my letter to Mr. Cunard.

It is stated by my anonymous assailant that some or most of the sixty Journals represented by Messrs. Abbott, Winans and Wills, in the complaints submitted to me, and through me to Mr. Cunard as President of the Nova Scotia Telegraph Company, *now* take dispatches from the "*Agency* of the Associated Press:" And it is hence inferred and asserted that the statements of those gentlemen (and, inferentially, the statements of the above-mentioned Baltimore Editors, and of Mr. Holbrook, of the New-Orleans Picayune) were false and "fraudulent," and that I knew them to be thus false and "fraudulent" when I submitted those statements in my letter to the President of the Nova Scotia Telegraph.

So, some or many of those sixty Journals actually took their foreign news from the "Agency of the Associated Press" at the very time they and their agents protested against the *necessity* which *compelled* them either to take foreign news dispatches in that way, or go without them. The above-mentioned Baltimore Editors expressly protested against being thus virtually compelled to take dispatches in that way, and asserted their right and preference for dispatches "through such agency as they might designate, *directly, if necessary*, from Halifax." They also, in the second paper signed by them, and included in this narrative, (after condemning the course of the Nova Scotia Line in permitting "*exclusive privileges to one party over another in the transmission of news*,") concluded by "hoping for *a speedy remedy of the evil*, and that they may be *enabled to obtain dispatches direct* from Halifax or from any other point, such as they may desire, either individually or through their authorized agents, [among whom they named Abbott, Winans and Wills,] upon an equal footing with any other party or parties." "We consider it fair and just," said those Baltimore Editors, (and so also said their agents, Abbott, Winans and Wills,) "that the Telegraph, as a common carrier, should be *open to* *competition*, and to the *use of all upon equal terms.*" Mr. Holbrook, of the New-Orleans Picayune, personally expressed his sentiments to me in substantially similar terms.

The simple fact that Editors of such prominent newspapers in different cities should, without consultation or preconcert, thus earnestly protest against the exclusive and arbitrary course of the Nova Scotia Line in granting "exclusive favors to one party over another," at the time when the protesting Editors were necessitated to take dispatches under a system which they condemned, *adds strength* to their protests against "the manner in which European intelligence, arriving by steamers at Halifax, has been heretofore furnished us" through the "*Agency* of the Associated Press of New-York"—and enforces their demand, if such a demand wanted any force beyond its innate justice, that neither the Nova Scotia Telegraph, nor any other Telegraph, should throw any further obstacles in the way of their "obtaining said news *independent* of the New-York Associated Press, and through such agency as they may designate, *direct*, if *necessary*, from Halifax."

But, whether the complaint were confined to "only a dozen," or even to a single one, of the Editorial corps, or of any other class of citizens who felt aggrieved, *the demand for redress would be equally strong on the score of* PRINCIPLE—inasmuch as practices which Law and Public opinion unite in denouncing, and which most of the Associated Press frequently aided me in denouncing, on this side of the Nova Scotia Line, cannot consistently be practised and defended when practised on the British side of that boundary.

In connection with the foregoing explanatory narrative, it will not probably be considered irrelevant to mention a few public questions which have steadily influenced my action in Telegraphic matters, and which directly affect the *principle* involved in the Nova Scotia Telegraph contrrversy.

The American Telegraph system, though conducted by individual enterprise, is essentially a *public* institution—in the management of which, *the People generally have an interest not exceeded by the interest attaching to any one branch of the Federal Government.* My agency in originating, constructing and organizing the first lines that ever connected telegraphically the chief towns on "the Atlantic, the Lakes, and the Mississippi," covering several thousands of miles, may therefore justify an allusion to certain principles and facts which have swayed my action in Telegraphic matters affecting the Public Interest.

In 1843, a couple of years before commencing the establishment of the Telegraph System by individual enterprise, I aided in organizing the "State Constitutional Association," of which MICHAEL HOFFMAN was President, by preparing the documents declaratory of the objects of the organization—objects and organization which have been emulated in most States of the Confederacy, to a degree which has already occasioned essential Constitutional Reforms in probably two-thirds of the United States. In the first printed circular which I framed on that subject, I briefly stated the objects of the Constitutional Reform movement, and invoked the aid of all persons friendly to such principles—

> —"In restricting the Legislative, Executive and Judicial Authorities—in checking or regulating the progress of debt-creating, tax-imposing and *monopoly-favoring* legislation—in reforming the courts by abolishing the lumbersome and expensive technicalities and formalities of legal and judicial proceedings—in *forbidding all special legislation inconsistent with Equal Rights*, whether affecting banks or *other corporations or individuals*; and for preventing Executive abuses of the Appointing Power, by recognizing more thoroughly the Democratic Principle in restoring to the People the right of choosing all officers that can be consistently elected through the ballot-box in their respective counties or districts, or in the State at large."

In 1845, (when commencing the establishment of the Telegraph System through the Union,) the projected Constitutional Reforms were approved by overwhelming majorities of the people; and the new Constitution of New-York, like the new Constitutions of many other States, recognized the leading doctrines which I had co-operated in the organization for establishing—doctrines which I had long and steadily advocated in my former Editorial capacity, and to which I was also substantially pledged by my published political creed when in nomination for the Legislature in previous years. *Prominent among the doctrines to which I was thus particularly committed*, was the Anti-Monopoly principle, "forbidding all special legislation inconsistent "with *equal rights*, whether affecting banks "*or other corporations or individuals*"—and, taking always since a deep interest in the establishment of such doctrines throughout the various States of the Confederacy, my Memorials to the Legislatures of New-York, Ohio, Indiana, Illinois, Massachusetts, Tennessee, Kentucky, and other States, show that, in all applications for legislative regulations concerning the *Telegraph System*, I steadily advocated the same doctrine of Equal Rights which was interwoven by me in the first organized movement for Constitutional Reform—of which my brief Memorial to the Legislature of New-York, in 1847, (when certain patentees aimed to render the *Telegraph* a practical monopoly, more exclusive than the world ever yet witnessed,) will furnish satisfactory evidence:

Memorial in favor of Equal Rights and no Monopoly in Telegraphing.

To the Legislature of New-York:

In behalf of sundry associates in the Atlantic, Lake and

Mississippi Telegraph Enterprise, the undersigned respectfully requests, that Legislation concerning the Telegraph System shall be *modified in consonance with the Reformed Institutions of the State* so as to allow *Equal Rights to all persons* engaged in Telegraphing, by granting facilities *impartially* to all individuals or companies who have sufficient confidence in *any* of the various *modes* of Telegraphing, to induce them to bestow their efforts and their money in extending Telegraph Lines along the Public Highways, in any section of the State of New-York. However grateful for all proper facilities, the undersigned and his associates *seek no exclusive favors*, and believe that the best security for the best and most economical System of Telegraphing, will be found *in throwing open the doors for free and honorable competition*—any thing like Monopoly or Favoritism being as contrary to the real interests of the Telegraph System *generally*, as it is repugnant to the Public Interests and the doctrine of Equal Rights. PUBLIC CONFIDENCE will be found more potent than *Exclusive Legislation*, in extending and protecting those modes of Telegraphing (of which American genius already furnishes several valuable inventions) best calculated for counteracting abuses, and promoting "the greatest good of the greatest number." HENRY O'RIELLY.

Albany, January 26, 1847.

Now, here were strongly exhibited, some seven or ten years ago, the liberal doctrines of public policy which most or all of the Associated Presses (as well as the great mass of Journalists and other citizens) then sustained me in demanding from Legislative Bodies in the *United States*—the *very same doctrines* which, in behalf of many distinguished Journals above-mentioned, I embodied respectfully in my letter to Mr. Cunard, as President of the *Nova Scotia* Telegraph Company.

— In these Telegraph matters, the undersigned has endeavored to represent alike what is intrinsically just, and what is accordant with the sentiments of persons influential in the Telegraph Lines, with whom he is more or less associated. And the following statements from the presiding officers of sundry lines of several thousand miles in extent, between the Atlantic, the Lakes and the Misssisippi, will indicate the prevalent public sentiment concerning the laws and rules which should govern the Telegraph System generally:

TO ALL WHOM IT MAY CONCERN:

The undersigned, officers of several Telegraph Companies, and owners of a majority of the Stock in sundry Telegraph Lines extending between the Atlantic, the Lakes and the Mississippi, when lately assembled in Chicago, had their attention directed to the present restrictions (in Nova Scotia) upon Telegraph Intercourse between Europe and the United States. They have read the published letter from Mr. O'Rielly to Mr. Cunard, President of the Nova Scotia Telegraph, upon the subject; and have also read the statements of the Baltimore Editors, and of the News-Agents of other Editors in different parts of the Union, complaining of the evils, and demanding that redress which Mr. O'Rielly was invoked to assist in obtaining from the Nova Scotia Company, of which Mr. Cunard is President.

The undersigned, therefore, take occasion to state, on this important subject, that they concur with those Editors and with Mr. O'Reilly, in expressing the hope that the aforesaid restrictions will be modified by the Nova Scotia Telegraph Company, so as to allow an impartial transmission of Telegraphic dispatches across that Province, on the principle of "*first come, first served—without regard to wealth or station*"—a principle with which the Telegraph commenced its career in the United States, and which is deemed indispensable to the public interests, as well as important to the welfare of all the Lines with which the undersigned are connected, as officers and stockholders.

And they further deem it a duty to all interested in the Telegraph Lines which they represent, to state that, if the existing Nova Scotia Telegraph will *not* comply with this fundamental rule of Telegraphing, the subject should be presented respectfully to the People and to the Legislature of Nova Scotia, in the hope that some *general laws* may be passed in that Province which will allow the establishment of other lines that *will* transmit Telegraphic dispatches of European news *impartially* across that Province, as a matter of justice to the Telegraph Lines and the Press and the Public generally in the United States:

JOHN J. SPEED, Jr., President of Erie and Michigan Telegraph Co., between Buffalo, Detroit, Chicago and Milwaukie.

J. H. WADE, President of Cleveland, Cincinnati and St. Louis Telegraph Companies.

EZRA CORNELL, Lessee and Manager of Ohio, Indiana and Illinois Telegraph, between Toledo, Cincinnati, Chicago, Milwaukie, &c.; *and also* representing a majority of Stock in Illinois and Mississippi Telegraph Company, between Chicago, St. Louis, Galena, Dubuque, &c.

I concur in the foregoing.
E. W. CHESTER,
Pres't of the New-York and Western Union Tel. Co., [between N. Y. and Lake Erie].
New-York, May 9, 1853.

Such is a plain narrative of the facts connected with my letter to the President of the Nova Scotia Telegraph Company, on subjects highly important alike to the Public and the Press generally, as well as to the Telegraph—a letter to which, and to its accompanying circumstances, I again invite the scrutiny of "all whom it may concern," so that all concerned may point out, if possible, a single act or expression on my part which may not challenge respect rather than abuse from all who value the INTEGRITY OF THE TELEGRAPH SYSTEM and the RIGHTS OF THE PUBLIC.

Yet, my course in this matter is made the pretext for torrents of abuse against me which can scarcely be paralleled in the Annals of Libel—abuse which is disseminated with an industry commensurate with its malignity—abuse that is scattered in pamphlet form *all over the Union*, whenever it is supposed it can injure me, (as I am informed by various Telegraph Presidents through the United States,)—the dastard who disseminated the libels having actually attempted to screen his "revenge" (as he probably cloaks his "speculations") under the mantle of the "Associated Press"—a covering which that honorable fraternity have promptly torn from his assassinism by the following denunciatory article from their Secretary (Mr. M. S. Beach, editor of the New-York Sun):—

"*Telegraphic Controversy.*

A most scurrilous pamphlet has recently been put forth, bearing on its face the imprint of "THE ASSOCIATED PRESS, in which an extremely ungenerous and disgraceful attack is made on Henry O'Rielly, Esqr., the well-known and energetic constructor of Telegraph lines. Our only purpose in alluding to it is to deny, in the fullest and broadest sense any knowledge of, or complicity in, the publication of it by "The Associated Press." True, the writer incidentally remarks that he acts on his own responsibility, and without consulting the members of the Association, but the staring capitals of the title given to his essay, too clearly show his intent in fixing the responsibility upon other shoulders than his own. As to the charges brought **against Mr. O'Reilly we have little to say. That gentleman** can, undoubtedly, defend himself if necessary. We will only remark our conviction that one of the most important charges is entirely without foundation.

> "The present Association of the New-York Newspaper Press, was first started by the present proprietor of the Sun, on the occasion of his making arrangements for a daily express to secure the transmission of news from the South, and particularly from the seat of War in Mexico, in advance of all the ordinary channels of communication. Its objects and aims have been ever in accordance with the best interests of the whole community, whose confidence has deservedly received and constantly merited. It does not lend itself, *knowingly*, to the attainment of private. ends, whether of *revenge* or *speculation;* and when it desires to speak, it needs neither mask nor cloak behind which to screen itself from public observation."

Thus much by way of explanation to Editorial and Telegraphic friends concerning the difficulties and results produced by the Telegraphic restrictions imposed at different times by different parties on *both sides* of the British-American frontier—difficulties which, though causing ungenerous hostility in certain quarters towards me personally for my efforts in counteracting them, may, when fully known to the community, produce reformatory results salutary to the Public Welfare in connection with the Telegraph System.

Few persons now connected with the Press were earlier enlisted as Printer and Editor than myself; and none can feel a deeper interest in every thing which affects the character and interests of the Newspaper World—certainly no one connected with the Telegraph has stronger incentives, in the Future as well as in the Past, to render the Telegraph satisfactory to the Editorial Fraternity generally in every thing that can *legitimately* be accomplished on the Lightning Lines. The feeling which influenced me when commencing the Editorship of the first *Daily* Newspaper ever established between Albany and California, more than a quarter-century ago, still influences me in hoping to renew editorial life again after completing the "ATLANTIC AND PACIFIC TELEGRAPH," of which I have already completed the Atlantic, Lake and Mississippi Division—that feeling which, among other considerations, has steadily influenced me, from the commencement of the Telegraph System down to the present time, so to establish Telegraphic business, as far as I have been or may be concerned in its establishment and extension, that THE PRESS at least shall have no great reason for changing the opinion which has thus far been generally expressed in approbation of the principles by which I have aimed to be guided in an enterprise more intimately connected with the interests and feelings of the American People than some Departments of the Federal Government.

HENRY O'RIELLY.

NEW-YORK, June 13, 1853.

Compact of 1847 between, and settlement of 1851 with, Morse Patentees—referred to in O'Rielly's Memoranda.

[A.]

Morse & Vail's compact with F. O. J. Smith,

By which said Morse & Vail should be "secured and held "harmless from and against all claims or liabilities "which Henry O'Rielly has or may establish against" the said Morse & Vail.

These presents witnesseth, that, for valuable and mutual considerations, Francis O. J. Smith, of the first part, and Samuel F. B. Morse and Alfred Vail, by their attorney, Amos Kendall, of the second part, hath agreed and promised to and with each other, as follows:—

The said Smith shall SECURE and HOLD HARMLESS the said party of the second part FROM AND AGAINST ALL CLAIMS OR LIABILITY WHICH HENRY O'RIELLY has or may establish upon the said two parties, by virtue of ANY CONTRACT MADE HERETOFORE WITH SAID O'RIELLY BY SAID MORSE, VAIL & SMITH, in conjunction with L. D. GALE, touching the right to construct Telegraph lines under said Morse's Letters Patent, and to cause all of said O'Rielly's claim aforesaid to be settled amicably or judicially, as soon as may be, without recourse by said Smith to said Morse and Vail for aid, assistance, contribution of costs, or expenses that may hereafter in any way accrue touching the premises. But said Morse and Vail shall, if necessary, concur in the execution of any writing, conveyance or evidence of settlement that shall be made of said claim, consistently with the undertakings of said Smith herein set forth, and shall, if required, put at the disposition of said Smith all correspondence between said Morse and Vail and their attorney, Amos Kendall, with said O'Rielly and his associates, touching the premises aforesaid, and shall give to the said Smith all information in the possession of said Morse and Vail or their said Attorney, relating to said matter.

And if from any cause other than the JUDICIAL VACATION OF MORSE'S PATENT for the Electro-Magnetic Telegraph, the said Smith shall be unable to control stock on the Philadelphia, Pittsburgh, Louisville and St. Louis line of Telegraph, this day, in the extent of their interest, sold and conveyed to him by said Morse and Vail. sufficient to pay the consideration stipulated to be paid therefor, and in addition thereto, stock on the Pittsburgh and Louisville portion of said line sufficient to meet deficiencies, if any, in the consideration to be given for the line from Buffalo through Detroit, and Chicago to Milwaukie this day, to the extent of their interest sold and conveyed to said Smith, by said Morse and Vail, the said Smith covenants and binds himself to pay said consideration or any deficiency in either or both cases in other Telegraph Stocks of equal value, or in cash, at his option: and should any difference of opinion arise as to the value of the stocks thus to be substituted, or as to the amount to be paid, the point or points in dispute shall be submitted to three arbitrators, one to be selected by said Morse and Vail, and one by said Smith, and the third by the two so appointed, and the parties hereto bind themselves to abide by and carry into effect the award of them or a majority of them.

Witness our hands and seals at the city of New-York, this 22d day of June, A D. 1847.

In presence of J. J. SPEED, JR.

(Signed) FRANCIS O. J. SMITH,
SAMUEL F. B. MORSE,
ALFRED VAIL,
By their Attorney,
AMOS KENDALL.

[B.]

Settlement of Dec. 2, 1852,

Between the Representative of the Morse Patentees (F. O. J. Smith,) and Henry O'Reilly—omitting only some non-essential details.

WHEREAS, differences have arisen in the execution and fulfilment, by the parties thereto, of a certain contract made and entered into at the city of New York, on the thirteenth day of June, A. D. 1845, by and between Henry O'Rielly, of the first part, and Samuel F. B. Morse and others, of the second part, relative to the construction and use of lines of Magnetic Telegraph, under Letters Patent granted to said Morse and his assigns:

[Here follows a recapitulation of powers already referred to:]

And whereas, by virtue of the rights and powers thus acquired by said Smith of the one part, and of the rights and powers of the said O'Rielly of the other part, touching said premises, and to adjust and settle said contract, and all claims, disputes and differences relating to or growing out of the same, including all suits and processes at law heretofore instituted touching any of said premises, in the States of Pennsylvania, New-York and Ohio, and pending in said States and in the Supreme Court of the United States; which suits shall be dismissed without cost, taxed by either party — the said Smith and O'Rielly have, on this 2d day of December, A.D. 1851, at the city of New-York, amicably agreed and united upon the following terms and understandings, and respectively obligate and bind thereto, each on his own part, himself, his heirs, representatives and assigns, to wit:

1st. The said O'Rielly obligates and agrees to cause to be paid to said Smith or his order — and for this purpose, by powers of attorney, of even date herewith, authorizes the said Smith to demand collect, and receive, in lieu of all costs and damages that have accrued to him as original party or assignee of and under the first contract described above, and for differences arising therefrom — ONE FOURTH PART OF ALL THE NET EARNINGS, whether declared or not declared heretofore as dividends, or otherwise, to this date, OF ALL AND OF EACH OF THE SEVERAL LINES OF TELEGRAPH, CONSTRUCTED BY HIM, OR HELD BY COMPANIES ORGANIZED UNDER CONTRACTS WITH HIM on each of the routes described or contemplated in the said first-named contract above, and whether the said lines have been in the charge of companies or individuals.

And the said Smith, on his part, agrees thereupon, and in consideration of such payment first being made, and of these premises, to refund to said O'Rielly twenty per cent. or one fifth part of said sum which he shall receive and collect; also to execute unto any legal company that shall be free of debt, and designated by said O'Rielly, a deed of transfer and conveyance of the right to use on said route or line last named said Morse's patented inventions aforesaid, for and during the existence of such letters patent therefor as have been or shall be granted to the said Morse or his assigns, in renewal of or auxiliary to the said Morse's existing letters patent aforesaid; said company, in consideration therefor, and as a condition of such deed of transfer, shall issue to said Smith, or his order, on demand, an amount of stock and right of certificates to represent the same, &c. &c.

2d In LIEU OF ALL COSTS AND DAMAGES that HAVE ACCRUED TO SAID O'RIELLY under and by reason of SAID FIRST-NAMED CONTRACT AND THE DIFFERENCES ARISING THEREFROM, the said *O'Rielly shall have* FULL AND EXCLUSIVE POWER, to construct ALL and as many lines of said Telegraph, with full right and power to use said patentee's inventions thereon. as he shall procure capital therefor, auxiliary to, or independent of, lines heretofore constructed by him or that shall be acquired by him, as is by these premises contemplated, on the following terms and conditions, and within the territorial limits hereinafter described. to wit:

3d. The territorial limits within which the provisions of these presents shall operate to *secure to the said O'Rielly* THE EXCLUSIVE POWERS HEREIN CONTEMPLATED, shall be as follows, viz.:—The territory lying within a drawn line extending from Detroit, in Michigan, to Toledo; thence by the Wabash River to the point where the National Road crosses said River; thence by said road to Vandalja, in Illinois; thence to St. Louis; and thence by the valley of the River Des Moines, or otherwise, through Iowa, by such route as shall be found most advantageous for the extension of a telegraphic communication, to intersect Lake Superior at or near Fondulac; thence along the national boundary line through Lakes Superior and Huron, to Detroit. the first point mentioned above.

4th. That the provisions of these premises shall continue in force for and during the period of seven years, during which period said O'Rielly binds himself, and agrees to devote and contribute, by himself and responsible agents and representatives, his best efforts and ability, and all necessary labor, for the vigorous extension and construction of lines of telegraph WITHIN SAID TERRITORY, and without aid to, or interest in. or arrangement with, directly or indirectly, any other lines or system of telegraphing than are herein contemplated, AND WITHIN SAID TERRITORIAL LIMITS, during the continuance of these presents; and to conduct his said undertakings without expense to said Smith, or said Morse or Vail. at any time or in any manner: *And these presents witnesseth*, that said O'Rielly hereby EXONERATES AND RELEASES THE SAID MORSE AND VAIL FROM ALL CLAIM OR LIABILITY TO CLAIM TO HIM, THE SAID O'RIELLY, or his representatives, for aid, assistance, contribution of cost or expenses that have in any way accrued touching the contract of June 13th, 1845, herein first described, subsequent to the 22d day of June, A. D. 1847, or that may hereafter accrue, touching the premises; and hereby cancelling and dissolving into these presents, all and several, the provisions, undertakings and promises of each party, made and entered into by said last-named contract; and nothing herein contained shall be construed to authorize said O'Rielly, or his agents or representatives, to create any charge or indebtedness of the said Morse, Vail or Smith, jointly or severally, for or on account of these premises, or otherwise in the construction of any telegraph line as aforesaid, or in conducting the business thereof; nor incur any indebtedness whereby the rights of the Proprietors of said Patents shall be impaired or prejudiced.

But the said O'Rielly shall have power and is hereby authorized to settle and adjust, on such terms as he shall deem proper, all claims pertaining to said Patent rights existing WITHIN THE TERRITORY HEREINBEFORE DESCRIBED.

That the said Smith, on his part, further agrees, upon the receipt of the one fourth part of the stock above provided to be issued to said Smith on the several lines of telegraph heretofore constructed by or under the arrangements of said O'Rielly. twenty per cent. of such fourth part shall be transferred to the order of said O'Rielly by said Smith, and the remainder of said fourth part shall be retained by said Smith to represent the interests of the grantors of the patents in such lines of telegraph.

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American Telegraph Magazine, and approbation bestowed on it.

IT will probably interest many friends who desire the success of this work, to learn the general approbation with which our efforts have been honored and encouraged by most of the gentlemen who are prominent in the Telegraph Lines through the United States and British-American possessions. This approbation is the more gratifying, as it is evinced equally from lines built under various patents, and by various constructors—the interests of which patents and constructors have been supposed to be so incompatible as to render it impracticable for them to be united in support of any *one* telegraphic publication. The FACT that we aim in all sincerity to render this Magazine an *independent* record of Telegraphic history, and a fearless censor of Telegraphic operations, can alone account for the general confidence with which we have been honored by Telegraphers of all setions and all interests. The current opinion of the "Telegraphic world," it rejoices us to find, fully sustains the language of Professor Morse, in his letter, published in the December number of the Magazine.

"I do not see," says Professor Morse, "I do not see why your Magzine should not have a permanent position among the periodical literature of the world; *quite as permanent* AS THE TELEGRAPH ENTERPRISE ITSELF. I think you have been fortunate in originating it just at the time when such a work is needed; and I most cordially wish it success." "I have seen enough of the *animus* of the conductor of it, in the two numbers already issued, to feel confident in his disposition to be JUST AND IMPARTIAL."

☞ "JUST AND IMPARTIAL!" A capital motto for our Future as for our Past.

THE TELEGRAPH NEWS-ROBBERIES—ONCE MORE.

Duties of Telegraph Companies and officers, &c.

No Telegraph Company ought to be ashamed or afraid to let the public see how it does the business of the *Public.* Neither should Telegraph Companies, or the officers thereof, become indignant, if their acts are somewhat closely scrutinized: nor should they be *greatly* surprised if, when some gross outrage has been perpetrated by some of their employees, (such as the exposure or theft of private dispatches, as was, at one time, the case on the Atlantic and Ohio or Philadelphia and Pittsburgh Line,) the public should inquire *why* the persons detected in such rascalities should be *continued* in responsible situations, with all the facilities that they had before (with increased experience) for plundering those who sent messages over the line.

We are led to these reflections by the course pursued by the Atlantic and Ohio Telegraph Company, in relation to some remarks which we felt called upon to make concerning their action in a certain case.

In the first number of this Magazine, we noticed the fact that some of the operators on one of our principal lines had conspired together for the purpose of stealing and selling private dispatches. We referred to the matter for the purpose of calling the attention of Telegraph Companies to the fact that it was possible for their lines to be greatly disgraced and injured by such nefarious practices, and to the necessity of procuring a class of operators, at whatever price, whose characters should be above any such reproach.

In our second number, in answer to many inquiries, we stated fully and explicitly what we knew about the affair on the Atlantic and Ohio line—to wit—that certain of the operators at Philadelphia and Pittsburgh were detected in stealing and selling private dispatches—dispatches belonging to some Editors, and selling them to other Editors—and that we believed that Mr. Reid promptly discharged them. In that article we spoke of the character of the persons who were guilty of pirating and selling the confidential dispatches of the patrons of the line in the most emphatic terms. Mr. Reid, Superintendent of the Atlantic and Ohio line, saw our article, and was *so much pleased with it,* that he immediately wrote us a letter, stating that what we had said on the subject was true and just, and honorable to ourselves as a journalist,—saying further that the parties whom we had denounced were undoubtedly *deeply guilty.* At that time, Mr. Reid had nothing to say about the baleful effects of "a hasty exposure of wrong," as he has *now,* after the wrong has been pretty thoroughly exposed for several months. Probably Mr. R would have all wrongs become chronic before exposure.

In our second article, we gave Mr. Reid credit for at once discharging the operators who had been "deeply guilty" of the most disgraceful practice possible in the telegraph business—and Mr. Reid pronounces our article just and honorable! But, before the issue of another number, we are informed that Mr. R. had almost immediately re-employed the operators who had disgraced themselves and whom he had discarded, and placed them in their former positions, where they could again prey upon and expose the confidential communications of the public. Such appointments seemed to us an outrage upon the public, and a proceeding calculated greatly to injure the reputation of the Telegraph business. We commented upon it as seemed proper to us; and we are very sure all Telegraph men not directly interested in that case, will approve of what we then said. But Mr. Reid was no *longer* satisfied with *our* course; for we were compelled to denounce *his* course in the matter of the re-appointment of the persons referred to. He became indignant, and so continues up to this time; which does not at all surprise us.

> "No rogue e'er felt the halter draw,
> With good opinion of the law."

Mr. R. publishes an article in Philadelphia on this matter, in which he says: "When a great agent of usefulness is publicly attacked, and its integrity questioned, it becomes a suitable occasion for public anxiety and regret."

The foregoing enunciation is not exactly clear, and we will endeavor to elucidate it a little. Perhaps Mr. R. means to say: "When the employees "of a Telegraph Line, over which the confidential "business of the public must pass, prostitute the "positions which they hold to purposes of plunder; "when they steal and expose private dispatches, "and become 'deeply guilty' of the worst practices possible in the business; and when all this "becomes known to their superiors — the Superintendent and Directors — and those superiors outrage all decency and propriety by continuing "the delinquents in the same positions which "they had so indelibly disgraced; and when the "Superintendent energetically endeavors to blast "the characters of honorable men who accidentally "discovered the perpetration of the iniquities upon "the line, and rewards with friendship, confidence, "and office, the perpetrators thereof; *when all "this takes place,* as it has taken place, on the "A. & O. Line, *it becomes a suitable occasion for "public anxiety, and regret.*"

We might perhaps add, (but we fear it would not accord with Mr. Reid's sentiments,) "When "any person exposes such a state of things upon "any line, it becomes a suitable occasion for both "regret and *satisfaction* — regret that it should "*exist,*— satisfaction that it has been *exposed.*"

Mr. Reid seems to think it discourteous and improper in any way to assail the management of the A. & O. Telegraph Company. In his view, the action of the Directors of that Corporation seems to be above question; and referring to our strictures on their, *or his,* course in the re-appointment of the dispatch-stealers, (for there were several.) he says: "When a great agency of public usefulness is publicly attacked, and its integrity "questioned, it becomes a suitable occasion for "public anxiety and regret"; and in referring to the Directors, he says, "Mr. Robinet is a retired "merchant of Philadelphia — a gentleman, the "very last to wink at or cover over the least approach to dishonorable conduct by the agents of "the Company of which he is a Director. This "is characteristic of every member of the Board."

Now, we must suggest to Mr. Reid, that this sort of defense, against a "serious charge," *the truth of which is admitted*, won't do. We have no doubt that the Directors are all reputable men—that "Mr. Robinet is a retired merchant of Philadelphia," and that "this is characteristic of every member of the Board." Nevertheless, incorporated companies, even when composed of very respectable people, as companies generally are, frequently require that public attention should be called to their proceedings; and it is this direct responsibility to the community that gives any security that corporations will be "agencies of usefulness, and not of infamy."

The Directors of the A. & O. Tel. Co. may be, and doubtless are, very respectable men. But they are not *more* respectable than are the Directors of the American Art Union, or than the Canal Commissioners of the State of New-York, or than the Cabinet of Gen. Pierce:—Yet, the acts and proceedings of all these Directors and Officers are scrutinized, investigated, approved or denounced, according to their character.

The Art Union, directed by highly respectable men, many of them "retired merchants," (and, for aught we know, this may be "characteristic of the whole of them,") has been brought up before the courts. Some of the acts of the Canal Commissioners (who are also reputable men; and some of them "retired merchants") have been declared null and void, because in bad faith to the state. Members of the President's Cabinet have been brought before Congress for Galphinizing the public treasury. Scores of corporations, composed entirely of respectable retired merchants and other men equally reputable, have been wound up by legal process. And only a few days since, the people of the city of New-York sat in judgment upon the acts of the Common Council, which is composed of about forty respectable gentlemen—"retired merchants" and others; and decided, as it has been decided thousands of times before, in all manner of ways, that corporations, to be *safe*, must be scrutinized by the public—that no corporation is so high, that its acts shall pass *un*questioned, especially when they are of a decidedly *questionable* character.

The style of defense adopted by the A. & O. Co. and their agents is unsatisfactory. The Directors compliment the Superintendent, and the Superintendent, in return, "goes bail" for the very high respectability of the Directors—which argues a good and pleasant understanding between those officers. Such reasoning amounts to nothing, and *nothing* more.

But let us sum up, and close up this affair.

Mr. Reid admits that some of the operators on the A. & O. Line were "deeply guilty" of *stealing*, selling, and exposing private dispatches—to what extent these villanies were carried, is unknown. Than the conduct of which these persons were guilty, nothing could more tend to destroy all confidence in the Telegraph business; and robbing the mail would not be in itself more disreputable. For this gross outrage, these persons were discharged, and, within a very *brief period*, (we never said the "succeeding day,") they were again re-employed; which re-appointment seemed to us to be an outrage on the public and on the Telegraph business. If Mr. Reid and Mr. Morehead felt strong sympathy for the culprits, and believed them to be the *innocent victims* of great temptation, and chose to *show their sympathy* for and confidence in them, by placing them in places of profit and trust in *their own private affairs*, it would be all very well. But they have no more right to force such men into places of *public* confidence and trust, than has the Postmaster-General to place a person who has been known to have tampered with the U. S. Mail, in charge of a Post-Office.

The cases are quite analogous. These men had shown themselves either too dishonest or too weak to be trusted; yet we find them *re-instated in positions, where the private and confidential communications of the public must pass through their hands and under their eyes.*

WE believe such appointments to be *unwise* and *improper.* Mr. Reid believes such appointments to be WISE and PROPER. Such is the difference between us.

On various Lines, operators have been guilty of similar improprieties; but we believe that, in all cases, except the one under consideration, the connection of such persons with such Lines has been promptly terminated; and in no case, except on the A. and O. Line, have they been re-appointed.

The Pittsburgh and Philadelphia (or A. & O.) affair, at least its principal facts, were widely known long before we made any mention of it; and we have avoided mentioning the names of the parties implicated in it, because we had nothing to do with *them.* But with the action of the company, we had something to do. It is our right and duty, if any Telegraph company shall, by their appointments, compel the public to intrust their confidential business to the care of men who are unworthy of confidence, no matter whether they are too *weak* or too *unprincipled* to withstand temptation, to protest against such a policy.

Clerks in the Post Office have at various times violated the sanctity of the mail; but we never heard that the perpetrators of such perfidy were considered suitable incumbents for a confidential position.

Clerks in other *Telegraph lines* have been guilty of the same offense with those on the "Atlantic and Ohio;" but on *no* other line have such persons been rewarded, as on the "A. and O." with position and office. And on no Line where the nature of the Telegraph business and the just rights of the public are properly appreciated, could such a state of things exist.

The *commission* of such an offense would require and receive comparatively small notice at our hands, and with the offenders we have nothing to do. But we must be allowed to take exceptions to the wisdom and propriety of placing such offenders in positions where the most confidential and private business of the community must pass through their hands, and where *their* honor and integrity (?) is the only guarantee for its safety.

P. S. In the article to which we have referred,

Mr. Reid makes several incorrect statements. We care, however, to correct only one or to two of them.

He says that it is asserted by the American Telegraph Magazine, that the persons discharged by him were reëmployed the succeeding day. No such statement has ever been made by us.

He also says that Mr. O'Rielly was a "party to the compilation of these charges, and co-Editor." Mr. O'R. was neither the one nor the other! Mr. O'Rielly sometimes writes for the Telegraph Magazine, as does Prof. Morse; but neither of them had any thing to do with the "charges" referred to.

The necessity of a "good memory" is obvious in Mr. Reid's case. In one page of his publication, Mr. Reid alleges that Mr. O'Rielly heard *officially* about these News-Stealing operations, which he now blames Mr. O'Rielly for denouncing. On another page, Robinet's report (revised, if not written, by Reid) assails Smith and Baily for letting facts be made known to "outsiders," such as Mr. O'R. and others. Mr. Reid *knew* that his statement *first* above mentioned was false; but, as the falsehood is indicated by the second (Robinet's) statement, it is noticed here only as it indicates the recklessness of assertion which characterizes these "latter-day" effusions of Mr. Reid.

"Union and Harmony"—Consolidation, Settlements, et cetera, et cetera.

The last two or three months have been very eventful in Telegraphic matters. Several important Lines have been united in different regions; several other Lines have been leased by their respective owners, to parties who have now assumed the management in connection with other Lines; and various projects are now on foot for amalgamating or consolidating *all* the Telegraph Lines in certain regions or in the whole United States. Of all these matters, we will endeavor to speak fully in our next and future Numbers—our reason for refraining now from particular remarks, being the fact that these arrangements and proposed arrangements involve sundry considerations which require more particular elucidation than we can bestow upon them until further developments are made and further facts obtained.

Correspondents who inquire of us about the "People's Line," particularly, may understand from this that we are not inattentive to requests for information—none of those persons seeming to consider the pamphlet lately published as satisfactory in showing the condition of that Line prior to its union with the rival line; about which union, also, no statement appears to have been made for the information of stockholders generally in the (late) People's Line—at least, no such statement has been heard of in this region.

THE HOUSE LINE TO BOSTON.

The above line was badly built, and for some three years subsequent to its erection, was badly worked, until the posts, wires, machines, operators, officers and Company, became completely "*demoralized*"; and the whole thing was a reproach to the Telegraph System—particularly to the "House Telegraph System." Nevertheless this line has had a "resurrection!"

John M'Kinney, about one year since, leased this dilapilated, *unworking* and seemingly unworkable Telegraph from New-York to Boston; and straightway it became one of the most docile, tractable and steady-working of lines: until to-day it is equal in all respects to any other line over the same route. Mr. McK. has, by capacity, skill and energy, triumphed over all the difficulties which can beset a Telegraph line. He has replaced a poor line by a good one—brought system and order among his operators—put money in a Treasury which was previously not only empty, but in debt; and *now* receives and transmits his full share of the business between New-York and Boston.

"LONG MAY HE WAVE."

Submarine Telegraphing—in the old World, and the New.

While on *terra firma* the Lightning Lines have been constructed, in the United States, to an extent and with a rapidity that "left out of sight" the comparatively slow progress of Electric Telegraphing in the Old World, it is evident that our British cotemporaries are rather a-head of us in Submarine Telegraphic Operations. Aside from the evidences furnished by the submerged lines between England and France, and between Scotland and Ireland, the accomplishment of "the Submarine Telegraph from London, by way of Ipswich, across the German Ocean, to Ostend, in Belgium," is a fact that marks an era in this branch of Electric Intercourse — the distance being thrice greater than that of either of the lines first above-named.

Yet, this last and greatest submarine Line is not more remarkable in itself than in what it foreshadows. The success of such an enterprise will stimulate the establishment of many Lines between places separated by water—as, for instance, between European and African cities on the opposite shores of the Mediterranean, and between islands and continents.

In the way of European and African "annexation" by the Lightning Lines, we notice the important fact, that the French Emperor has lately conferred on Mr. Brett the right of Telegraphing for fifty years between France and Algeria, on condition of the immediate establishment of a submarine line between those countries.

All this has a direct and important bearing on the great project of connecting Newfoundland with the main land of America, for which the "Newfoundland Electric Telegraph Company" is established with sundry privileges under a charter from the Parliament of that Province—a part of the design being to establish St. Johns (N. F.) as a "port of call" for vessels steaming between Europe and America, so as to transmit telegraphic intelligence between those Continents by a short passage of five or six days—for the encouragement of which steam project, as well as for the Electric line to connect Newfoundland with the American Continent, the Provincial Parliament also offers some pay and privileges. The distance from Newfoundland to the proposed point of connection on the American shore is about 130 miles. We have heard little about this enterprise for several. months, except that the Electric Telegraph Company have applied for an alteration of Charter so as to permit an increase of capital with reference to a proposed extension of their line to New-York, &c. It is said the work will be completed next autumn.

As for the projects of Telegraphing across the Atlantic Ocean, it is only necessary to say, as is often said when one has nothing particular to say—" we await further developments," without caring now to dwell on the question of its practicability.

Ohio, Indiana and Illinois Telegraph—Leased for five years.

This important Line—hitherto profitless alike to its constructor and to the stockholders—inportant as a public convenience through important regions, extending about nine hundred miles—has been leased by the Directors to Ezra Cornell, Esq., late President of the New-York and Erie Telegraph Company, for a period of five years.

The Line, or rather Lines, for there are several branches, connects many of the most important cities and towns in the flourishing regions of the North-west, between the Lakes and the Ohio River. The Company hitherto has paid no dividends ; but we incline to think that the Lessee will realize a handsome return for his efforts, besides paying a rent of $3000. If such a Line, properly managed, will not pay handsomely, then indeed may telegraphing be pronounced a poor business.

☞ This is the Line, about which, in the fifth number of the Telegraph Magazine, we published a Memorial or Remonstrance to the Indiana Legislature concerning the rascality which smuggled a late law through that body to sanctify all past "irregularities" perpetrated in the management of the Company—a scheme in which the schemers have been headed by results already witnessed.

NOTA BENE.

It affords us pleasure to find that the course of the "American Telegraph Magazine" meets with the approbation of the present President of the "Ohio, Indiana and Illinois Telegraph Company," as it had previously met the approval of nearly every prominent Telegraph Officer in the United States and British America.

Lucian Barbour, Esq., the President abovementioned, in writing us from Indianapolis, says :—

"I received the February and March Number of the Telegraph Magazine to-day. It is really valuable and interesting. I was not aware that a Magazine devoted exclusively to this subject, could be made so useful. New-York City affords facilities for an Editor and publisher, which no other part of the country can furnish.—You have made your Magazine valuable to every reading man, and indispensable to every man engaged in Telegraph business."

☞ Our arrangements for the future will enable us to render the Magazine hereafter even more serviceable than our Telegraphic friends declare it to have been thus far.

Illinois and Mississippi Telegraph—between Chicago, St. Louis, Galena, &c.

Pursuant to notice, and in accordance with a special law passed in Illinois last June, 1852, such shares of stock as the assessments ($2.50 per share) were not paid on, were sold at auction in Ottawa, on the 2d of May, 1853. Out of an aggregate of about nine thousand shares, the assessments were voluntarily paid on about three thousand—about three thousand more were bought in by several parties at the late public sale—and about three thousand were knocked down "to the Company," and cancelled—there being no bidders willing to pay any advance on the amount of assessment. This result therefore reduces the stock about one-third, and correspondingly increases the value of that which remains—the money received on assessments and sales also enabling the Company to put the Line in better order for business. The loss to some is therefore a gain to others in the Company; and the public will probably be better served after the proposed improvements, for which means are now realized as above. Improved connections with other Lines, and the construction of some auxiliary lines for which Mr. O'Rielly and others are now arranging, will also essentially aid the "Illinois and Mississippi Telegraph Company."

Motive Power produced by the electrical Decomposition of Water.

The Genoa correspondent of the Newark Advertiser, in noticing the many wonderful discoveries of the age, states that "a complete revolution in the means of steam navigation and locomotion (we quote his own words) is anticipated from a recent invention by Dr. Carosio," of Genoa. It is said that the Doctor has succeeded in constructing an apparatus for the decomposition of water by electro-magnetism, which will introduce the gases thus generated into the engine, in a way *to save all the expense of fuel!* His invention has been approved by savans and practical engineers, and a company has subscribed the means of giving it a full experiment. Means have also been adopted to secure patents in all other countries. Mr. J. B. Musso, a respectable merchant of Genoa, has started for the United States, with letters from our Minister at Turin to the head of the Patent Office, at Washington.

We shall see what we shall see. Without being considered unduly skeptical, we may say that we have heard of so many wonderful inventions for producing motive power, that we prefer hearing more about this alleged invention before we yield our faith to its practicability.

Telegraphing without wires—Lectures in Ireland, and experiments on the Susquehanna.

In a lecture delivered recently in Belfast, some speculations were indulged respecting the practicability of transmitting currents of Electricity across or through bodies of water—to a certain extent, at least. The British Journalist says:—

"In that Lecture, Mr. J. B. Lindsay showed that much yet remains to be done in the beautiful applications of science to telegraphic purposes. Mr. Lindsay said that he had recently instituted a series of experiments with the view of testing an idea that he had formed some fifteen years ago,—that no submarine wires are necessary for the transmission of electricity. In explanation of this principle, he said: 'I shall localize the case, in order to render it intelligible. Suppose a wire connected with the copper end of the battery to be led down to the shore, and connected with a sheet of metal laid in the river. Suppose a wire from the zinc end taken to Broughty Ferry, and soldered to a metallic plate placed also in the river. Suppose similar plates laid in the river on the Fife side, at Newport and South Ferry, and these joined by a wire having in its course one or more telegraphs. Suppose now that a charge of electricity is sent through the wire on the Dundee side, this current may make its circuit from the copper to the zinc either by leaping four miles through the water from Broughty Ferry to Dundee, or by a leap of two miles across the river to the other wire at South Ferry, and another leap of two miles from Newport to Dundee. In such a case, I have found that part of the electricity does not go across, and part of it does; but the part of it that does go across is sufficient to work one or ten thousand telegraphs."

☞ A statement by Professor Morse, about transmitting electricity through the Susquehanna, in Vail's book about Electric Telegraphs, published in 1845, may be remembered by some of our readers in connection with the foregoing remarks of Mr. Lindsay. Mr. Henry J. Rogers, as well as Mr. Vail, was present on that occasion at the Susquehanna; and we would like to hear further particulars of what was then said to be a successful experiment in transmitting electricity across rivers—an experiment never yet applied to practical purposes in Telegraphing.

Telegraphs in Russia—and connecting the Old World and the New.

Late intelligence from Europe shows that the Russian Government is arranging for the extension of Electric Telegraphs in some portions of the country. The region of the Black Sea is particularly mentioned as the locality of some of the Lines proposed, for connecting the Capital with some of the outposts of the Empire.

It needs no prophet to foresee the rapid extension of Telegraphic Lines after they are once fairly commenced and their convenience realized in the vast dominions of the Czar. The railroad between St. Petersburg and Moscow, and other railways in progress or projected, will, of course, be supplied with Telegraphic facilities, unless they are left far "behind the intelligence of the age."

The Russian empire, embracing portions of Europe, Asia, and America, furnishes the opportunity for connected Telegraphic intercourse between the Old and New Worlds. It would be "glory enough" for any monarch to exert his power in thus establishing electric communication between the "ends of the earth."

We hope soon to see an example furnished to his Majesty, and an opportunity afforded him for "hitching on" his Lightning, by the completion of the "*Second* Division of the Atlantic and Pacific Telegraph, from the Mississippi to California, Oregon, and Vancouveria."

"New-Orleans, Red-River, and Texas Telegraph and Branches."

T. C. H. Smith, Esq., who manifested much enterprise and perseverance in constructing lines between Wheeling and New-Orleans, is now engaged with others in constructing a range of lines under the above name, between New-Orleans and Galveston.

Mr. Smith is associated particularly with Mr. Ward in constructing the westerly section of this range of lines; and Mr. S. W. Cady and his associates, (among whom are Mr. B.

P. Crane, late Telegrapher at New-Orleans,) construct the easterly division.

Mr. Cady's division runs from New-Orleans, via Franklin and Opelousas, to Alexandria. Messrs. Smith and Ward are to build from Alexandria up to Shreveport, and thence southwest to Houston and Galveston in Texas.

The posts are already erected on a portion of the Line; and we are assured that the subscriptions for stock are such as to justify a belief in the completion of the whole Line within reasonable time. It is stated that the Company has been chartered by the Louisiana Legislature.

The completion of this Line is looked for by us with much interest. It traverses regions which require vivification by lightning. Texas, though politically in our Union, is now telegraphically "world-wide away" from the "country generally." We hope for her speedy "annexation" with the bonds of Lightning.

◆

"The" Magnetic Telegraph Company—Anniversary of its Line.

This is the broad name of a Company with a short but profitable Line—its route extending between New-York, Philadelphia, Baltimore, and Washington. As it is a sort of bridge or tollgate for a large share of business passing to and from extensive regions, it receives more than ordinary profit from this consideration, aside from the local business of the cities which it aids in connecting—(for it has a competitor in the House Line between those cities.)

This Magnetic Telegraph Company's Line was one of the Pioneers in the American Telegraph System. In looking among the "*Antiquities* of Telegraphic History," we find the following notice of the completion of the Line in a New-York *Express* some seven years old:

(Baltimore correspondence of the Phil. *North American*:)

BALTIMORE, June 5, 1846, 3 P.M.

"The Telegraph between this City and Philadelphia (completing the whole line between New-York and Washington) was again in successful operation to-day. It worked to a charm. Soon after the first intimation was given, the following note was transferred and immediately sent through to Washington:

"'PHILADELPHIA, June 5, 1846, 10 A.M.

"'Henry O'Rielly congratulates Professor Morse on the completion of the Telegraph, and on the connection of the Hudson and Potomac by links of lightning.'

"In five minutes after, the following note was received in Philadelphia, and responded to that it was all O.K.:

"'WASHINGTON, June 5, 1846.

"'Professor Morse congratulates Mr. O'Rielly on the success of his labors.'

"'A number of other communications were sent backwards and forwards, all proving the completeness with which the Telegraph works."

☞ The Magnetic Telegraph Company is now under the efficient Presidency of WILLIAM M. SWAIN, of the *Philadelphia Ledger*, who was one of the first subscribers that aided Mr. O'Rielly with means for constructing the section between Philadelphia and Baltimore. Few men have bestowed as much thought, or have as correct appreciation of the "proprieties" of Telegraphing, as Mr. Swain. This Line has always remunerated its stockholders with handsome dividends.

In those "ancient days," the New-York *Herald*, after complimenting "the Telegraph Line between Baltimore and Philadelphia," congratulated the public on the fact that, when the line should be completed between New-York and Boston, "the United States Government will receive the spirit of the foreign news, brought by each steamer to Boston, before the vessel will touch the dock."

In the short period since then (just seven years) more than twenty thousand miles of Telegraph have been constructed by private enterprise, without aid from the Government; and the Government experiences the benefit of almost instantaneous communication over those vast distances, as fully as it was then hoped it would realize such an advantage "between Washington and Boston."

◆

To the Magnetic Telegraph.

"HARP of a thousand strings!"
Swept by a mightier minstrel than the wind,
A viewless spirit, whose unfettered wings
Leave all, save thought, behind:

Outvying in its flight
The fleeting footsteps of the panting steed,
The arrowy keel that cleaves the billows bright,
Or the fierce engine's speed:

Thine is the magic spell,
With deepest tones the human heart to throb;
The power outvying feeble speech, to tell
Tidings of good or ill.

Thou who dost herald on
To the vast inland, stretching far and wide,
Tales from the ships, whose moorings yet unwon
Must still the wild waves ride:

Telling of kings and thrones,
A nation's downfall, or an empire's birth—
Revealing in thy weird and mystic tones,
Strange histories of Earth—

Of famine, fire, and flood,
The fearful earthquake, or the whirlwind's breath,
The ocean tempest, or the field of blood,
The pestilence, and death:

Or tidings sweet and dear,
The blissful messages of love and peace,
To waiting hearts that yearn from thee to hear
Hope, joy, return, release:

Thou who shalt link all lands,
Thou who at last shalt span the stormy sea,
Binding the nations into brother-bands—
What shall we sing of thee?

The earth whereon we tread,
The mighty billows rolling over thee,
The lightning's flash, the sky, the clouds o'erspread,
Shall yet thy minstrels be.

Thou messenger of mind!
Thy triple chords shall make the electric zone
Which heart to heart, as shore to shore, shall bind,
When space shall be unknown!

George D. Prentice.

With all the keenness of his wit, with all the energy of his sarcasm, with all the "savagery" of his politics, in which no man wields the editorial artillery more efficiently for defense or assault, *George D. Prentice* mingles with his writings, in an eminent degree, the traits of a heart swayed by the gentler and holier affections of human nature. One of his latest effusions is peculiarly illustrative of the latter qualities.

TO AN ABSENT WIFE.

BY G. D. PRENTICE.

'Tis morn: the sea-breeze seems to bring
Joy, health, and freshness on its wing:
Bright flowers, to me all strange and new,
Are glittering in the early dew,
And perfumes rise from every grove,
As incense to the clouds that move
Like spirits o'er yon welkin clear;
But I am sad—thou art not here!

'Tis noon—a calm, unbroken sleep
Is on the blue wave of the deep;
A soft haze, like a fairy dream,
Is floating over wood and stream,
And many a broad magnolia flower,
Within its shadowy woodland bower,
Is gleaming like a lonely star;
But I am sad—thou art afar!

'Tis eve—on earth the sunset skies
Are printing their own Eden dyes;
The stars come down and trembling glow,
Like blossoms on the wave below,
And, like an unseen spirit, the breeze
Seems lingering 'mid the orange trees,
Breathing its music round the spot;
But I am sad—I see thee not!

'Tis midnight—with a soothing spell
The far-off tones of ocean swell—
Soft as the mother's cadence mild,
Low bending o'er her sleeping child;
And on each wandering breeze are heard
The rich notes of the mocking-bird,
In many a wild and wondrous lay;
But I am sad—thou art away!

I sink in dreams—Low, sweet and clear,
Thy own dear voice is in my ear;
Around my cheek thy tresses twine,
Thy own loved hand is clasped in mine,
Thy own soft lip to mine is pressed,
Thy head is pillowed on my breast;
Oh, I have all my heart holds dear,
And I am happy—thou art here!

Col. Benton's Opinions respecting the Atlantic and Pacific Highway and Telegraph.

(Further Extracts from Benton's Address, concerning facilities of the proposed Central Route.)

These two documents—the letter of Col. Fremont and the statement of Mr. Leroux—establish the facts which are necessary to give the Central route a place in the public mind, and to entitle it to an examination under the act of Congress; and in the meantime to satisfy all inquirers that this great work is not only practicable but easy, and on the exact line which every national consideration would require it to be upon, and with every advantage of facile construction and universal use. Central to the Union, and embracing the business centres of the Atlantic and Pacific, and the Mississippi Valley States; on a straight line with San Francisco and St. Louis, and connecting at this latter point with the concentrated steamboat navigation of the great West, and with the entire railroad system from the Mississippi to the Atlantic—straight and smooth—not a mountain to be climbed, a river or swamp to be crossed, a hill to be tunnelled—wood, water, and soil for continuous settlements—coal known to exist on many points of the line—the whole traversable in winter, and all south of 39, 38, and 37 degrees: such is the character of the Central route, which now claims a share of public attention and of the Congress appropriation. I shall ask for it but justice, and that it may be examined by some practical man whom I can commend, and who will have a stomach to the work, and do it without talk or delay.

Description of the Country.

I now add some notices on the line of country over which this route would pass, with the view of showing the facility of making the road, and the capabilities of the country for continuous, populous and powerful settlements all along it.

1. The Kanzas River.—Its mouth is in lat 39, lon. 94½; elevation of the country 700 feet above the level of the Gulf of Mexico; its head is in lat. 39, lon. 103, elevation about 4000 feet, and its course (the Smoky Hill fork) nearly straight, and skirting the latitude of 39 all the way. It has four forks, all close together, and parallel to each other. It is without falls, and its valley—if that can be called valley which is nearly on a level with the prairies on each side—is fertile, grassy and wooded. The two main forks, the Smoky Hill and Republican, (where the United States is now establishing a fort,) are in lat 39° 3′, lon. 96° 24′, elevation 926 feet above the Gulf of Mexico. Fremont describes the two streams (1st of June) as too deep to be forded, and the country as beautifully watered with numerous streams, and handsomely timbered, some of the oaks five or six feet in diameter, the soil a rich, black, vegetable mould. Higher up, and half way up the Smoky Hill fork, he describes the country as still assimilated to north-west Missouri, the river having a uniform breadth of 80 to 100 yards, with many small streams falling in, wooded with oak, large elms, and the usual varieties of timber common to the lower part of the river. The mouth of the river is in communication with the rich and populous country of Missouri, with supplies of every kind at hand, and transportation easy up the Kanzas river by water, and over the clean level prairies, now traversed by annual thousands of wagons.

2. The Upper Arkansas and its Valley.—

Taking Bent's Fort, near the mountain of Huerfano, as a point in the line, and its latitude is about 38, longitude 108½, and elevation above 4000 feet. Its head is about latitude 39, and there are several pueblos above, where Indian corn, and other grain and vegetables are grown, and cattle, sheep and horses are raised, which shelter and feed themselves all the winter. There is wood upon the river, both above and below the fort, and it is fordable any where for some hundreds of miles. It has the aspect of a settled country, and Fremont speaks of travelling both above and below the fort, "*along a broad wagon-road.*" Soil good for cultivation.

3. HUERFANO, OR ORPHAN RIVER. — The mouth is just above Bent's Fort, and therefore it has about the same geographical position. It comes in from the south-west, and its head is in about latitude 37½, and longitude 105½; elevation not known, but not considerable, as it has no falls. It flows through an open country, traversable on a broad space, having the *Sierra Mohada*, or Wet Mountains, on the west, and is the line of approach to the Pass El Sangro de Christo, and others which lead through the Sierra Blanca, (in which it heads,) into the head valley of the Del Norte. Fremont found no snow in this pass.

4. THE VALLEY OF ST. LOUIS.—This is the head valley of the Del Norte, about between lat. 37 and 38, and between lon. 105 and 107; elevation not known. Fremont and Leroux both describe it as rich and beautiful, valuable in itself, and the more so as being about half way between St. Louis and San Francisco. The United States have the Fort (Massachusetts) in it, and it is filling up with settlers. It must have an area of 5000 or 6000 square miles, is nearly surrounded by grand mountains, and must be one of the finest and most picturesque mountain valleys in the world. Fremont found but little snow in it.

5. THE PASS COO-CHA-TOPE, OR EL PUERTO.—Its latitude is believed to be near 39, lon. about 107½, elevation hardly less than 7000 feet. It is a continuation of the St. Louis Valley, narrowed down to eight miles, level, and no obstruction but a dense forest of large pines. Several trails lead through it, and many from it toward the west. The first western water is the *Rio Compadre*, a branch of the Grand river, or east fork of the Great Colorado. From what Leroux tells me, the whole breadth of eight miles is good for a road, and he himself never followed any particular trail on going through it. It is a magnificent pass, worthy to be called El Puerto, (The Gate,) and worthy to open the door from the East to the Great Western slope of the North American Continent, and in the right place, and accompanied by all advantages.

From this pass to the mouth of the Kanzas the face of the country is an inclined plane, level to the eye, but rising under the barometer, the country broad and open, and traversable anywhere. The coal fields of Missouri are known to extend high up. Fremont says it is ready for the operative engineer to go and lay down the road.

6. THE VALLEY OF THE UPPER COLORADO.—This large valley lies between the latitudes 37 and 44, and between longitudes 107 and 113, and is crossed by the great Spanish trail probably about latitude 38. Its elevation at the crossing of Green river, the main fork, may be conjectured at between 4000 and 5000 feet, being ascertained by Fremont to be 6000 feet where he crossed the river, two or three degrees higher up. It is large enough for a great State, and has sufficient tillable land, with wood and prairie intermixed, and a milder climate than in corresponding latitudes east of the mountains. It is famous for its many streams of good water, and is not known to present any obstruction to a road. The two principal streams (Green and Grand rivers) are easily passed, the latter usually fordable, the former usually ferried.

7. LAS VEGAS DE SANTA CLARA.—This will be an important stage in the route, being the terminating point of a good country, and the commencement of what is called the Desert, and as such is already settled by the Mormons, as are two other places before you get to it—one, Nicollet's river, the other the *Ojo San Jose*, Spring of St. Joseph. Its latitude, according to Fremont, is 37½ deg., its longitude 215½; elevation above the sea 5280 feet. It is described by Fremont as a mountain meadow, rich in bunch grass, and fresh with numerous springs of clear water, all refreshing and delightful to look upon; the meadow about a mile wide and ten miles long, bordered by grassy hills and mountains, some of them rising two thousand feet, and still white with snow down to the level of the *Vegas*, (May 12,) while the weather was hot in the Desert from which he had issued. From this point a pretty stream called the Santa Clara, a fork of the *Rio Virgen*, (River of the Virgin,) issues to the south, and reaches the Great Colorado of the west, and has a good cultivation on the lower part of it. From Las Vegas the trail bears south-west to reach Los Angelos, and makes an elbow which it will be necessary to cut off to go nearly due west to Walker's Pass. This Desert is above three degrees of longitude in breadth—from 115½ to 118½—and is generally sterile, and deficient in grass and water, though daily camping-grounds are found, and the great annual caravans of many thousands of horses from California to New-Mexico were accustomed to

travel it. Col. Fremont was sure of finding a direct way across it, and saw at a distance a range of mountains lying east and west, along the southern base of which he *expected* to find wood, water, and soil.

8. Walker's Pass.—This is the south end of the Sierra Nevada, in lat. 35½, and lon. 118½, and opens into the head of the beautiful valley of San Joaquin; and certainly, short of Paradise, there is nothing more sweet and beautiful than the entry into that valley at this pass. Fremont thus describes it as first seen by him the 14th of April, 1845: "One might travel the world over without finding a valley more fresh and verdant—more floral and sylvan—more alive with birds and animals—more bounteously watered, than we had left in the San Joaquin. The air was filled with perfume, as if we were entering a highly cultivated country; and instead of green, our pathway and the mountain sides were covered with fields of yellow flowers, which here was the prevailing color. Gooseberries were nearly ripe. We were in the midst of an advanced spring. Snow was in sight on the *butte* of the mountain which frowned down upon us on the right; but we beheld it now with feelings of pleasant security, as we rode along between green trees and on flowers, with humming-birds and other feathered friends of the traveller enlivening the serene spring air. Taking into consideration the nature of the Sierra Nevada, we found this pass an excellent one for horses; and with a little labor, or perhaps a more perfect examination of the localities, it might be made sufficiently practicable for wagons. Its elevation was not taken, our half-wild cavalcade making it troublesome to halt before night when once started." With this pass, the last obstacle is cleared on this route to San Francisco. The Sierra Nevada is passed; the beautiful valley of San Joaquin is entered; the gold region is almost reached; steamboat navigation is near; a railroad is already projected; you are in *Tulare* county, in the midst of settlements, and can say, "I am in California."

Thus, not only the *practicable*, but the *absolute ease* of building the railroad to California is demonstrably shown, and through a country all the way good for continuous and populous settlements, and on the very line where every national and commercial consideration would require it to be, and where there is not more snow than on the railroad tracks of New-England and New-York, and western Pennsylvania; and that dry and light, and readily yielding to the snow-plough. A deep dry snow is less impediment to the cars than a thin wet one.

Attempted Application of Electro-Magnetism as a Motive-Power.

In the first number of the *American Telegraph Magazine* for October, 1852, we referred to the experiment of Professor Page in applying electricity as a motive-power on railways. We then expressed, and now repeat, the wish—a wish in which we know we are joined by many of our readers—to ascertain the extent to which the experiments have been carried.

We all remember the interest excited in the public mind when Congress appropriated twenty thousand dollars or more to enable the Professor to demonstrate the practical value of the application, when it was announced that a railroad engine had actually been moved by electricity at the rate of "nineteen miles an hour," on the plan of Professor Page. The public interest was excited to a degree of hope and anticipation which has scarcely been exceeded by the more recent experiments of another inventor (Ericsson) with the caloric engine for maritime purposes.

Since the first report of the alleged achievements of the electric railroad engine, we have not seen any authentic particulars of the practical operations of the machine. The same spirit which influenced Congress in voting the appropriation for the experiment, influences the public now in desiring to know the actual condition of things with reference to an invention which started off under such apparently favorable circumstances. We hope soon to be able to inform our readers on the subject, either by quoting any statement which Professor Page may think proper to make through his own valuable magazine (the *Polytechnic Journal*) or through other channels. Earnestly desiring to witness the entire practical success of the experiment thus commenced under the public auspices, it will afford us pleasure to state the facts whenever they may fall under our observation.

Meantime, in accordance with our purpose of making the *Telegraph Magazine* an accurate record of the progress of electric discovery and application, we deem it proper to record the results of the experiment made by Professor Page on the Baltimore and Washington Railroad, as we find those results stated by a writer in the *National Intelligencer* of that date:

"A gentleman who was present, and one of those who went in the car on its trip, furnished to the *Republic* the annexed account of Prof. Page's experiment on Tuesday last. The progress of the locomotive, when it started, was so slow that a boy was enabled to keep pace with it for several hundred feet. But the speed was soon increased, and Bladensburg, a distance of, we believe, about five and a quarter miles, was reached in thirty-nine minutes. When within two miles of that place, the power of the battery being fully up, the locomotive began to run, on nearly a level plane, at the rate of nineteen miles an hour, or seven miles faster than the greatest speed heretofore attained. This velocity was continued for a mile, when one of the cells cracked entirely open, which caused the acids to intermix, and, as a consequence, the propelling power was partially weakened. Two of the other cells subsequently met with a similar disaster.

"The Professor proceeded cautiously, fearing obstructions on the way, such as the coming of cars in the opposite direction, and cattle on the road. Seven halts were made, occupying in all forty minutes. But, notwithstanding these hindrances and delays, the trip to and from Bladensburg was accomplished in one minute less than two hours.

"The cells were made of light earthenware, for the purpose of the experiment merely, without reference to durability. This part of the apparatus can, therefore, easily be guarded against mishap.

"The great point established was, that a locomotive on the principle of Professor Page can be made to travel nineteen miles an hour."

☞ The alleged rate of progress of this electric engine is about double as great as that of the average of the caloric-ship, and is more remarkable *comparatively* than the speed attained by Ericsson. If the speed and success of the electric engine were really as they were represented, high hopes may well be entertained.

The successful application of electricity for practical purposes, as a motive-power, would truly form a brilliant "page" in the annals of science and art. We are anxious for particulars.

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Calhoun's Opinion on the Mechanical Employment of Electricity.

From the American Polytechnic Journal.

There is a destination for every traveller, an end for every march, a goal for every racer, a climax for every aspirant, a summit for every mountain-steep; but where is the end of thought and its developments? "The faster run the quicker won," "The greater speed the earlier meed," may be mottoes for the encouragement of ephemeral labors; but there is no perch for genius, be her swift flight never so long—her pinions never so strong. No goal, no end, no summit, though with ever-accelerating pace it goes, for ever waxing strong and great—no resting place, for there is no fatigue; but, with ceaseless efforts, it climbs, it soars, expands, invigorates under heavy burdens, takes fresh life and vigor from each new obstacle in its pathway, and, with perpetual grasp, its abiding glory and guerdon is to conquer. It has but to desire, to obtain, to "seek and to find." Such is the *career of science;* eternal with the Great Supreme, but by man hardly commenced; immortal, and to him eternal in the future. In apostolic times, we read that even those miraculously gifted from on high were impressed with the belief, that the "end of all things was at hand," notwithstanding the precept of their great Teacher, that "of that day and hour no man knoweth." Reason has no better, surer foundation than the *Scriptures.* But we are not reading a homily now. We propose merely the inquiry, Was not such belief, on the part of those of old, to some extent founded upon their own restricted conceptions of the vastness of mental developments, as measured by their own standards? And is not this the secret belief—yes, the uttered thought—of many at the present day, and upon the self-same principle of narrow perceptions and limited scope of mental vision, which looks to the present compared with the past only, and conceives no future which may bear similar comparison with the present—which regards mind as fully or sufficiently expanded, human wants as nearly supplied, the measure of earthly happiness as nearly full, resources mostly exhausted—in short, the full stature of the perfect man already attained? With the shallow thinker, enough has been done, and to do more is incomprehensible, and if not impossible, at least improbable; but to the deep thinker, the "*end is not by and by.*" Omniscience alone has set the bounds; and how near or how remote, not even angelic intelligences divine; but we, in the very poverty of our judgment, seem to discern clearly this truth, that if the achievements of mind are to terminate only with the exhaustion of its resources and capabilities, then the "*end is not by and by.*" Time was when a single capacious intellect could grasp and hold all of recorded and traditionary science, but the master spirits of this age tire under the burden of a single branch of the great circle of sciences. "The world is going ahead fast," has now become a familiar apophthegm, and he that would win must work; he that lags must lose. Genius waits for no one; and the incessant, impetuous, ever-increasing whirl of thought confounds and intoxicates all save those who, avoiding the surface, plunge into the depths. "Drink deep or taste not the *Pïerian* spring," was once a wholesome admonition; but now no alternative, for from tasting follows, as almost an unavoidable necessity, the deep draught. It is indeed "going ahead fast;" but the faster it goes, the further it seems from the end. Wants and supplies increase; fountains of wealth and power unfold and are unfolded; gigantic enterprises are accomplished, and more and more undertaken; and there is a universal pressure which bears every thing before it, and every one along with it. Space and time suffer violence, distance disappears, a day is as a year, and the blessing of threescore years and ten is the equivalent of patriarchal longevity. It is somewhat paradoxical to consider the destroying agent, steam, as contributing to the prolongation of human life; but this it does, and through its instrumentalities we live a day in an hour, a year in a day. But it is electricity that takes no note of time, and heeds no space; that brings leagues to inches and time to nothing. Thus we live, and such is the *career of science.* But how shall we live, and how will it be hereafter? The insatiate cravings of thought, the restless yearnings of genius, even now, with all their rich earnings, betray impatience of delays.

"At first, with vaporous wings, she flings the waves aside;
And then, with fiery chariots, shakes the earth beneath her rapid strides;
And last, with lightning's self, she rides both sea and land:
And now she stops a while to ponder if aught quicker may be found to speed her way."

What is all this but the foreshadowing of new gains upon time and space? Mr. Calhoun once remarked to us, while conversing upon the subject of electricity, that "the subjugation of electricity to the mechanical necessities of man would mark the last era in human civilization." The elements, air, water, and heat, had all been pressed into man's service, and electricity alone remained. But electricity has begun its work; and if the convictions of the great statesman accord with destiny, then that era has commenced. If so, the signs of the times point to an era of length immeasurable, and the number of whose developments is legion. Such is the *career of science*, and its prospects. Part of man's duty and destiny is to comprehend and know all that the GREAT CREATOR has put under his dominion, and he is yet hardly aroused to the task. The learning of the past is to that to come only as the penumbra to that volume of light which will irradiate the escutcheon and make effulgent the crown of *immortal genius.*

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Australia—a Land of Contraries—Electric Telegraph there.

THE "fifth quarter of the globe" (if we may use an Hibernicism in describing that queer country, which is sometimes called "the land of contraries") is shortly to be added to the Telegraph world; as our friend McGowan is now near his destination, with all sorts of apparatus necessary for generating and shooting lightning over the proposed lines in Australia. It will be remembered that we mentioned Mr. McGowan's departure some months ago, with our best wishes for his success. He was particularly and well known to persons transacting business with the old Morse Line between New-York, Albany, and Buffalo, of which Mr. Fanton is President.

The oddities of Australia, which he and his assistant telegrapher will soon have to enjoy or suffer, as the case may be, are amusingly hit off in a late English paper. There is not so much difference between England and the United States as to render the contrasts of Australia less remarkable in the eyes of an American than in those of an Englishman, (and by-the-bye, Mr. McGowan, though resident long in America, is of Irish origin.) The "contrarieties" mentioned in the concluding passages of the following article will, we hope, induce McGowan and his associate to bear the oddities of Australia with "fortitude and resignation." The British writer says:

"If there be a land on the face of the earth which, to an Englishman's eyes, must appear a land of contraries as compared with his own country, Australia is surely that land. It is our literal antipodes. When it is day with them, it is night with us; and when we are all hard at work, they are in the 'arms of Murphy.' When they have their longest day, we have our shortest; and when it is summer with them, it is winter with us. Their May-day is in autumn; and while our trees are budding, theirs are in the sere and yellow leaf. They begin to wear their summer foliage in October, and commence putting on top-coats and pea-jackets in June. Their Christmas is in summer; and when mosquitoes are flying about, and the sun's heat is severe, the Yule-log, as may be easily imagined, is somewhat superfluous; and to dance Sir Roger de Coverly at Christmas, with the thermometer standing at 95 degrees in the shade—think of that, shades of Christmas! Without clear frost, Christmas in England is nothing; but Christmas with mosquitoes and hot wines! snap-dragon in the dog-days! hot spiced claret in the height of summer! The climates, winds, and seasons, in Australia, are all reversed. The north wind does not blow cold, as with us, but hot like the sirocco. The south wind—

'The sweet South,
That breathes upon a bank of violets,
Stealing and giving odor,'

in Australia brings rain, sleet, and hail. The sun comes overhead in the north, and not in the south; in the north are the tropics, in the south the polar regions. Australian poets have to reverse their tropes, and instead of singing of—

'Old January, wrapped well
In many weeds to keep the cold away,'

they sing, in the language of an Australian bard—

> 'When *hot December's* sultry breeze
> Scarce stirs a leaf on yonder trees!'

"Soils, streams, vegetables and animals, are equally puzzling in Australia. The richest soils are often found on the tops of the hills. The valleys are cold, the hill-tops warm. Rivers flow from the neighborhood of the coasts into the interior, where they become lost. Trees do not shed their leaves, but only their bark; and the most of them in Australia afford no shade. The cherries grow with their stones outside. The birds don't sing, the dogs don't bark, the bees don't sting, and the flowers don't smell. The mole (ornithoryncus) is a fish, and the kangaroo carries its young in a nest attached to its body. Australian swans are black, and Australian eagles are white. Cuckoos coo in the night, the owls hoot in the day, and the Australian jackass is a bird! But above all things, the people of Australia are *not poor!* that is, perhaps, the most crowning and satisfactory *contrariety* of all."

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International Telegraphing—Submarine Connections between Britain and the Continent.

THE Submarine Telegraph between Great Britain and the European continent is invested with a degree of interest far transcending the ordinary importance of Lightning lines of equal extent. It was the first, and is yet the only successful experiment in subaqueous Telegraphing for such a distance. And its successful results embolden many to believe in the practicability of Telegraphing between continents separated by thousands of miles of the Atlantic ocean—a stretch of imagination rather greater than will very soon be verified by "the wires."

Even though a Submarine Telegraph should never be established on another or a longer line, this connection by lightning between two such countries as France and England—the people of which countries, for so many centuries, considered each other hereditary enemies—marks one of those great strides in human progress which will render the nineteenth century memorable as a turning-point in history.

The character of the event would alone justify us in republishing an account of the establishment of that submarine line, as a most interesting record of Telegraphic enterprise; but the matter has a practical value with reference to its example in other projects for telegraphically connecting regions separated by water.

The account furnished by the London journals is as follows:

"The long-promised experimental operations for establishing a continuous telegraphic communication between Great Britain and the Continent, by means of wires sunk between Dover and Calais, were commenced on Tuesday at Dover. At one o'clock the steamer Goliah was ready to start across, with all the necessary apparatus on board, and a crew of about thirty men, consisting of pilots and sailors, superintended by Dr. Reid, of the House of Commons; Mr. C. J. Wollaston, C. E.; Mr. J. Crampton, C. E.; Mr. F. Edwards, and others.

"Between the paddle-wheels, in the centre of the vessel, was a gigantic drum or wheel, nearly fifteen feet long and seven feet diameter, weighing seven tons, and fixed on a strong framework. Upon it was coiled up in careful, close convolutions, about thirty miles of telegraphic wire, one tenth of an inch in diameter, encased in a covering of gutta percha, the thickness of a little finger. The point proposed to be reached, Cape Grinez—the nearest landmark to the English coast, and between Calais and Boulogne, is a distance of twenty-one miles, so that a surplus of nine miles of wire was held in reserve for the purpose of slackening.

Captain Bullock, of her Majesty's steamship Widgeon, caused the track of the navigation to be marked in as direct a route as possible by placing a series of pilot-buoys with flags on the route, besides being prepared to accompany the experimental cruise with his own vessel as a tender. The connecting wires were placed in readiness at the Government pier in the harbor, and likewise at the Cape, where they run up the face of the acclivity, which is one hundred and ninety-four feet above the sea-mark.

"The necessary batteries and manipulators were all on board, but as a gale and rolling sea unexpectedly sprung up, the operation was adjourned until Wednesday morning. Some interesting experiments, however, were made upon a small scale to show the practicability of the plan. A mile of wire was paid out off the deck, from the pier to Shakspeare's Cliff, and the sinking process was proved to be a practicable performance. A communication to the following effect was also sent through twenty-four miles of wire: 'Printed by electric telegraph on board the Goliah steamboat.'

"On Wednesday morning, at half-past ten, the experiment of sinking submarinely was practically commenced. The Goliah rode out to the Government pier, with her telegraphic tackle and apparatus on board, under a calm sea and sky and a favoring wind. The connection between the thirty miles of telegraphic wire was then made good to three hundred yards of the same wire enclosed in a leaden tube on shore, to prevent its being bruised by the shingle on the beach, and to enable the experimenters, as they proceeded out to sea, to send communications on shore.

"The vessel, being fairly under weigh, steamed out at the rate of three or four miles an hour into the open sea, in a direct track for Cape Grinez. The wire weighed five tons, and the cylinder two. The operation of paying out the thirty miles of wire commenced on a signal to the sailors to "Go ahead with the wheel, and pay out the wire," which was continuously streamed out over a roller at the stern of the vessel, the men at every sixteenth of a mile being busily engaged in riveting on to the wire square leaden clamps, or weights of iron, fourteen to twenty-four pounds, and which had the effect of sinking the wire in the bottom of the sea, which, on the English coast, commences at a depth of thirty feet, and goes on at a depth varying from that to a hundred and one hundred and eighty feet, which latter, or thirty fathoms, is any where the greatest depth. The whole of the casting out and sinking was accomplished with great precision and success, owing to the favorable state of the day.

Various interesting salutations were kept up hourly, during the process of submerging the wire, between the gentlemen on board and Messrs. J. and J. W. Brett, the original promoters of the enterprise.

The only conjectured difficulties on the route were at a point in mid-channel called the Ridge, between which and another inequality called the Varne, both well known and dreaded by navigators, there is a deep submarine valley, surrounded by shifting sands, the one being seventeen miles in length and the other twelve; and in their vortex, not unlike the voracious one of the Goodwin Sands, ships encounter danger, lose their anchors, and drift, and trolling nets of fishermen are frequently lost. Over this, however, the wire was successfully submerged below the reach, it is believed, of either ships' anchors, sea animals, or fishing-nets.

"The remainder of the route, though rougher on approaching the coast of France, was accomplished cleverly but slowly. A communication dated Cape Grinez, coast of France, half-past eight P. M., and received at Dover by submarine telegraph, was as follows: 'The Goliah has just arrived in safety, and the complete connection of the under-water wire with that left at Dover this morning is being run up the face of the cliff; complimentary interchanges are passing between France and England under the strait and through it for the first time.'"

☞ Some of the readers of the *American Telegraph Magazine* may not be aware that the Messrs. Brett, who have thus and otherwise distinguished themselves for their enterprise in establishing Telegraphic communications on several routes in Europe, are or were agents for our American House Printing Telegraph, which printing Telegraph is now used by them, with some variations that are said to be "improvements," though it is difficult to imagine how any thing in the way of a *Printing* Telegraph can be an "improvement" on the beautiful invention of our countryman, Professor House.

Nota Bene.—"The *direct* transmission by the Electric Telegraph between Paris and London (the former communications being between Calais and Dover) commenced on the 7th ult., (March,)" says an English paper, "when a singular circumstance occurred. A dispatch of forty words sent from Paris at nine, arrived in London at *two minutes* before nine. This is explained [quoth the English editor] by the difference between the clocks of Paris and London."

Brother Jonathan beats Johnny Bull all hollow in Lightning Races, inasmuch as this is "a great country" in comparison with the small region between Paris and London. Saying nothing at present of what we mean to do when our Telegraph lines reach the Pacific, and when we may beat Old Time himself in a fair race by two or three hours, see what the poet Pierpont says about what has been already done between the Potomac and the Mississippi, (and in this case, for a wonder, the poetry is not quite as wonderful as the simple fact,) in reference to the transmission of Zachary Taylor's Message over the O'Reilly Lines to St. Louis. Pierpont saith:

"A hero chieftain, laying down his pen,
Closes his eyes in Washington at ten;
The lightning courier leaps along the line,
And at St. Louis tells the tale at nine;
Halting a thousand miles whence he departed,
And getting there *an hour* before he started!"

Consolidation of Telegraph Lines, and the Benefits resulting therefrom.

Recent movements in various quarters and among interests hitherto antagonistic, indicate that the parties chiefly interested in Telegraph Lines are beginning to realize the benefit of consolidation, from the advantage which "union" affords in promoting the public convenience while enhancing the Telegraph profits. Other movements are on foot, the particulars of which we are not at present authorized to communicate, which will carry out this doctrine of consolidation to an extent that will enable the projectors to greatly promote the public convenience while largely benefiting all concerned in lines (now profitless and inefficient) through vast regions of the United States.

The union of the Morse and Bain lines between New-York and Washington, New-York and Boston, and New-York and Buffalo, is proving profitable to the stockholders; and the union, or rather alliance, between the two lines between Louisville and New-Orleans, (that built by Kendall & Co. with that built by O'Rielly,) is accommodating the public better than heretofore, while saving expenses and insuring reasonable profits to the Companies.

One important point to be kept in view in all these unions and consolidations, is, that some benefit should be secured *to the public* by every arrangement. Sound policy dictates that the permanent interests of the Telegraph will not be promoted by increasing the price of transmitting dispatches, unless increased benefit is rendered in the way of accuracy and certainty. If the business is done better than it has been, the public will have reason for congratulation. If not, the way will soon open for competing lines.

Talking of profits, we observe that the stock of the Consolidated Railroad (a union of all the lines between Albany and Buffalo) commands large premiums—twenty per cent. or more. This is a large and rapid advance, and will doubtless be followed by still greater premiums. It indicates the effect produced on the minds of capitalists respecting these railroad consolidations; and furnishes food for reflection to those contending parties in Telegraph matters whose collisions hitherto have prevented all profits to themselves, while preventing the Telegraph from attaining that efficiency which will ultimately render "the Lightning" a very different "institution" from what it has thus far proved on the best-conducted lines.

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New-York and New-England Union Telegraph Company.

SINCE the union of Companies now known under this title, the business is transacted in a manner more satisfactory to the public than formerly, while the results yield liberal remuneration to the stockholders.

The monthly reports of the officers of the United Company are furnished us, and we wish that all Telegraph Companies had their affairs presented regularly in a form so clear and intelligible.

Of the capacity of Mr. Swan, the Superintendent, for the active duties in working the lines, and for that integrity of character which forms the *first* qualification for such a responsible office, we spoke with freedom in connection with his appointment; and we take pleasure in saying that the United Company consults its own interest in sustaining an officer so well qualified to execute faithfully all the duties imposed on him by the Board of Directors and their worthy President, Henry M. Schieffelin, Esq.

In one of the latest monthly reports, we find the following statement of the condition and arrangement of the seven lines or wires employed in transacting the business of this Company. We hope to see similar returns, equally exact, from other Telegraph Lines:

SPECIAL REPORT.

To the President and Directors of the New-York and New-England Union Telegraph Company:

In obedience to the resolution instructing the Superintendent "to prepare and present to the next regular monthly meeting of the Directors a statement of the number of miles of line owned by this Company, including both main and side lines, and also the distance between each station," the undersigned would respectfully submit the following report:

The Company own five wires between New-York and Boston, which are placed on different sets of poles, following different routes; also one wire from Worcester to Providence and New-Bedford, recently purchased from the Rhode Island Magnetic Telegraph Company. The whole may be classified and arranged as follows: Numbers One, Two, and Three, are what have heretofore been known as the Morse wires. They are on one set of poles from New-York to Meriden, a distance of ninety-four miles. At Meriden, Number Three leaves the New-Haven, Hartford, and Springfield Railroad, and follows along the turnpike to Middletown, New-London and Norwich; and thence by the line of railroad to Worcester. Numbers One and Two continue to follow the railroad from Meriden to Enfield, a distance of thirty-four miles. At Enfield Number One leaves the railroad, and takes the turnpike to Clappville, a distance of forty-five miles. At Clappville, nine miles west of Worcester, Numbers One and Two come together, Number Two having kept the line of railroad from Enfield. At Worcester, Number Three unites with One and Two, and all follow the Boston and Worcester Railroad from this point into Boston.

Numbers Four and Five are the Bain wires, and are both on one set of poles from New-York to Boston. Their route is from New-York along the turnpike to Stamford, Norwalk, Bridgeport, New-Haven, Middletown, Norwich, and Providence, at which point they strike and follow the Boston and Providence Railroad into Boston. Number Six is the wire from Worcester to Providence and New-Bedford, having a branch fourteen miles in length, from Providence to Bristol, which wire has not been worked for some time past, and has therefore fallen into dilapidation.

The following are the different stations, and the distances between each, commencing at New-York:

New-York	to Stamford,	36	miles,	5	wires.
Stamford	to Norwalk,	8	"	5	"
Norwalk	to Bridgeport,	14	"	5	"
Bridgeport	to New-Haven,	18	"	5	"
New-Haven	to Meriden,	18	"	3	"
Meriden	to Hartford,	18	"	2	"
Hartford	to Springfield,	26	"	2	"
Springfield	to Worcester,	54	"	1	"
Worcester	to Boston,	44	"	3	"
New-Haven	to Middletown,	26	"	2	"
Middletown	to Norwich,	33	"	2	"
Norwich	to Providence,	45	"	2	"
Providence	to Boston,	43	"	2	"
Meriden	to Middletown,	10	"	1	"
Middletown	to New-London,	38	"	1	"
New-London	to Norwich,	15	"	1	"
Norwich	to Worcester,	59	"	1	"
Enfield	to Clappville,	45	"		
Worcester	to Woonsocket,	27	"		
Woonsocket	to Pawtucket,	12	"	1	"
Pawtucket	to Providence,	4	"	1	"
Providence	to Taunton,	24	"	1	"
Taunton	to Fall River,	18	"	1	"
Fall River	to New-Bedford,	14	"	1	"
Providence	to Bristol,	14	"	1	"

Whole number miles of poles	663
" " " " wire	1281
" " offices	18
Length of Number One wire,	226
" " " Two "	236
" " " Three "	260
" " " Four "	223
" " " Five "	223
" " " Six, or Rhode Island Line,	113

G. SWAN, *Superintendent.*

Cleveland and Cincinnati Telegraph Company—known as Wade's Line.

THE annual meeting, at which new officers were elected, was held at Columbus on the 26th and 27th January, and the proceedings and reports are now in pamphlet form before us. EZRA CORNELL presided at the stockholders' meeting, and the former President of the Company, J. H. WADE, was reëlected. The Treasurer is H. M. Hubbard, of Columbus; and the Secretary is John M. White, of Mt. Vernon, Ohio. The other members of the Board of Directors are: John J. Speed, Jr., of Detroit; Ezra Cornell, of Ithaca, N. Y.: A. P. Prichard, of Granville; Henry B. Curtis, of Mt. Vernon; W. B. Hubbard, W. A. Platt, and Wm. Dennison, Jr., of Columbus.

The following report exhibits the condition of the Company:

"At our last meeting, in July, there was shown to be on hand, at the different offices, $2430 94, and in my hands, $256 96. Total on hand, $2687 90—of which amount $1876 95 stood charged to the St. Louis line, at Cincinnati.

Since that time, there has been received for messages,	$16,314 17
From other sources,	853 53
Total for the six months ending January 5, 1853,	$17,167 70

During that time there has been paid to other lines, for forwarding business, $4,686 17; and paid out for working the line, repairing, rebuilding, &c., $12,302 63. In this amount is included $190 84 paid for taxes; $100 paid to the Mansfield and Sandusky line, as their proportion of the nett earnings of the whole, and about $1,200 for rebuilding the line; leaving a balance on hand at the different offices, January 1st, 1853, of $2,287 68; and in my hands, $579 12.

Total on hand, January 1st, 1853, $2,866 80, of which $1,719 90 still stands charged to the St. Louis line, for doing their business at Cincinnati.

This shows the nett earnings of the line for the last six months, over and above what has been paid for ordinary repairs, to have been about $1,400; and over and above all expenditures, including the amount paid for rebuilding, &c., $178 90.

The amount against the St. Louis line increased from the time of our last meeting, till within the last two months. In that time it has diminished from $2,173 39, to $1,719 90, up to January 1, 1853. And as the St. Louis line is now doing (in addition to their former business) the business going west of Cincinnati, for the "House line," the balance against them will probably continue to decrease in about the same proportion, till paid, after which the balance will probably be in their favor.

Our expenses for repairs have been heavier during the last six months than ever before, which expense must continue to increase till portions of our old line are rebuilt.

Since our last meeting we have rebuilt sixteen miles with new poles, and set from 600 to 700 new poles along the remainder of the line, where they were most needed.

In this manner, to set a few posts in a place, and then not till they have failed, (and perhaps subjected our business to delay,) it costs more than to start a suitable gang of men, and have them renew, to the best advantage they can, and in the most substantial manner possible, every thing that needs it.

This last course I think the most economical, and would therefore recommend it, as fast as our surplus funds will admit of it, taking care not to get the Company in debt. At Cincinnati I have purchased three hundred black locust posts, for which we pay one dollar each at the landing, and intend setting them as soon as the weather is favorable; and for that part of the line in and near the city, on account of the expense of repairing and rebuilding, as well as the damage we are liable to by the line getting down, they are doubtless the cheapest and best posts we can get. But in view of the first cost and expense of drawing them, (being very heavy,) I do not think it policy to use them on other portions of the line. Having learned by experience and observation the relative value of such timber as we can get in the vicinity of the line, we can build a very good line, and one on which the expense for repairs will be light for a long time, with such timber as we can get on the route.

For the north part of the line, where timber is the poorest, and where *good* timber could not be had when the first line was built, we can now transport them by railroad, and rebuild with *tamarac* posts, which are doubtless the best, except locust and cedar, that can be procured. J. H. Wade, *Sup't.*

Cincinnati and St. Louis Telegraph, Wade Line—Crossings of the Mississippi, &c.

Terre Haute, February 4, 1853.

Donald Mann, Esq., Ed. *Telegraph Magazine:*

Dear Sir:—Being at Cincinnati a short time since, I met with a number of your *Telegraph Magazine*, with which I was much pleased, and hope you may meet with such encouragement that it will prove as profitable to yourself as I think it will be to the public. It strikes me as just *the* thing that Telegraphers have long needed. Please send me the back numbers, as I wish to be posted up as far as possible.

I am at present superintendent of a line from Cincinnati to St. Louis, which is doing a very good business, with a fair prospect of an increase. I heard of you at Indianapolis, and hoped to make your acquaintance, but was prevented.

By the way, I saw in your Magazine a statement that a new plan for crossing rivers with Telegraph wires had been lately invented in Europe, which was, to cover the gutta percha with iron wires running laterally instead of spirally. Now, I beg leave to say that this plan is not new, nor was it invented by Johnny Bull. We have been using one over a year in crossing the Mississippi river, made and put down by myself, which has proved entirely successful so far. I think it was the first of the kind ever made, and, with a slight improvement, would be the best.

This crossing has worked at all times without the least interruption, while five or six crossings of much greater cost have been swept away by the drift and other resisting forces. I am not disposed to be vain of my own achievements, but feel bound to claim *this* invention (if not for myself) for my *country*.

With my best wishes and highest hopes for the success of your noble enterprise,

I am, Sir, yours truly, A. Wade,
Supt. Cinn. and St. Louis Telegraph.

☞ The line above mentioned is known as the "Wade Line," of which J. H. Wade, Esq., of Columbus, Ohio, is President. It is prudently managed by men interested in its success, and is improving in business that begins to yield a fair return, even in the midst of powerful competition.

General Safety of Telegraph Offices from Lightning—A Flash on the House Printing Telegraph.

The general exception of Telegraph offices from injury by lightning—an exemption so general that any damages may be mentioned as rare exceptions to the rule—furnishes an interesting practical refutation of the fears which some landlords and insurance companies expressed in the "early days" of Electric Telegraphing—in the "remote antiquity" of seven or eight years ago.

We aim to collect all facts on this as well as other points in Telegraphic history, and now annex an account of the phenomena attending the last battle between natural lightning and the "manufactured article," which occurred not long ago in the House Printing Telegraph office in Philadelphia, as described by the *North American* of that city:

"Yesterday afternoon, during the heavy storm of rain, which was accompanied by several vivid flashes of lightning, the electric fluid produced quite an exciting effect in the office of House's Telegraph line.

"The shock was sensibly felt by several persons in the rooms of the building, but more so by Mr. Alexander, one of the operators in the office, who was standing near the instrument, but was not operating at the time, having a few moments previously broken the circuit, as is usual during the prevalence of a heavy thunder-storm. He experienced the shock severely upon one side of his body, which for an instant paralyzed him, followed by nausea, dizziness, buzzing in the head, and a sensation as if air was escaping from his ears.

"The instrument was damaged; and the wire upon the helix forming the magnet was found to have been burned and melted to a considerable extent.

"The fluid, it appears, passed along the connecting wires from the instrument to the battery in the fifth story of the building, where an explosion took place, with a report.

"At the time the fluid struck the instrument there was also a report, quite as loud as that produced by the discharge of a pistol.

"The wire upon the helix is said to be about three miles in length; and from the extent of damage done to it, the replacing of it was a considerable piece of work.

"The accident to the apparatus is attributed to the supposed immediate contact of the electric fluid with the wires of the lines, some five or six miles distant from the office.

"We are glad to know that no serious personal harm resulted to any of the individuals in the building."

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Comparative Liability of Steamers and Sail-vessels to Injury by Lightning.

Who ever heard of a steamboat injured by lightning? If any one of our correspondents can remember any event of the kind, let him give us the facts as a contribution to the chapter of electric "accidents by flood and field."

Ships and other sail-craft experience some awful admonitions of the necessity of protection from lightning, admonitions which too many of their owners and captains, like the landlords of too many edifices on shore, neglect until it is too late. A recent case, reported in the London *Times*, presents an awful picture: "On Saturday, intelligence was received at Lloyd's of the total destruction of the ship Maise, of Queenstown, Pearson master, by lightning, on the 3d of August last, when off the island of Malta. The ship, being on her passage from Ibrail to Queenstown, was overtaken by a violent thunder-storm. At half-past ten P. M., the vessel was struck by lightning, which passed down her mainmast, and striking the hull, separated it in two, fore and aft. The ship instantly went down, with the crew, fourteen in number, and two passengers. Captain Pearson, on rising, caught a floating spar from the wreck, on which he continued to buoy himself up; and for seventeen hours afterwards he kept himself above water, when he was happily descried by a Maltese coasting-vessel, and landed at Queenstown, Ireland, the whole of the crew and passengers having perished."

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Professor Page's Opinions on the Dignity of Patents.

It is to be taken for granted that the various organizations adopted by the governments of enlightened nations for the encouragnment of the useful arts by protection for limited times, are invested with enough of official and real dignity, to remove even from the most squeamish all scruples, hesitation or delicacy in seeking that protection which the government wisely and generously proffers. Philosophers are among our greatest benefactors, but their gifts to the world are especially grateful, when they present to us some really useful application of their original discoveries. Sir Humphrey Davy is more remembered for his safety lamp than for all his splendid efforts and achievements in the field of discovery. Franklin's fame is so identified with the lightning-rod, that the mention of his name rarely fails to recall this wonderful invention and the discovery which led to it.

Discovery and invention are sometimes used as synonymous terms, but in their patentable relations they are distinct. The mere discovery of a fact, truth, or principle, independent of practical application or invention, is not the subject of letters-patent, for the reason that it involves nothing to protect by letters-patent. The discovery by Oersted of the connection between magnetism and electricity, affords a good illustration of this position. That signal discovery has brought in its train a bright array of inventions and stupendous results, but of itself it presented nothing tangible as property or a source of pecuniary profit, being a discovery of a fact, truth, principle, or relation, for which we may say, metaphorically, he "took out a patent" for all time to come, and which none can evade or infringe. There are however some tangible *inventions*, the reward of which is honor alone. Newton's theory of gravitation is as purely an invention as the printing-press or the steam-engine; and many others might be cited of a similar character. We must, in connection with this subject, advert to certain opinions recently advanced by some eminent men of science in this country, which, if not properly explained or controverted, might exert an unfortunate influence upon a particular class of inventors, and operate to the prejudice of our patent system. In the suit of French *vs.* Rogers, for infringement upon Morse's telegraph, Prof. Henry in his testimony says as follows: "I left to others what I considered in a scientific point of view of subordinate importance, the application of my discoveries to useful purposes in the arts." "Besides this, I partook of the feeling common to men of science, which disinclines them to secure to themselves the advantage of their discoveries by a patent." Prof. Henry does not mean to discourage or throw discredit upon patents, and we wish merely, for the sake of our own great cause, to show that he was in error in assuming that the feeling which actuated himself was "*common* to men of science." To dedicate to the world an invention of magnitude, or one fraught with promise of emolument immediate or remote, is truly a praiseworthy and self-sacrificing act, but such acts are, to the best of our knowledge, among the rarest of philosophers' doings, and in fact would in most cases defeat their own intentions; for experience has shown that the securing a valuable invention by letters-patent, is the surest guarantee of its early introduction and public benefit. In support of our views, we cite the distinguished Liebig, who has taken out a patent for a manure of his own invention; Sir David Brewster, preëminent for his physical researches, multiplied discoveries, and inventive genius, whose name appears often upon the patent roll; Wheatstone, a prince among practical philosophers, abounding in patents; Bramah, Watt, Barlow, Stephenson, Lardner, and many others of distinction, as bright examples among foreign patentees; and in our own country, among the many patentees, we notice Prof. Hare, Prof. Locke, Prof. Maury, Prof. Horsford, Prof. Olmsted, Prof. Renwick, Prof. Johnson, Prof. Espy, &c., &c. With the countenance of such distinguished men, surely we need no reinforcement. The only case of open hostility to patents from the scientific profession in this country, that has come to our knowledge, is one which we cannot pass over in silence. We regret it extremely for the sake of the cause, and while we believe it will not be responded to by our scientific brethren, we trust that Dr. Jackson will not always be in such bad humor with patentees as exhibited in his address last year before the American Institute of New-York. We entertain high personal and professional respect for Dr. Jackson, but should deem it recreant to our cause if we passed his tirade upon patentees without comment. We are at a loss to account for his sallies on that occasion upon all who sought to protect themselves by letters-patent. Dr. Jackson is himself a patentee, but we are to infer that he *ignores* his patent for the use of ether in surgical operations, as he contests priority of discovery with Dr. Morton, his partner in the patent. We cannot now stop to argue with him the propriety of patenting inventions and discoveries in science and art, nor need we, after the array of *scientific patentees* which we have cited in support of an institution held in such high estimation by the governments of all enlightened nations; nor need we at the present day attempt to trace how far the prosperity of our country, in all its great industrial relations, is due to the ingenuity of inventors, and the Patent Institution.

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Discoveries and Improvements in Connection with Electricity.

The Paris correspondent of the *National Intelligencer* lately mentioned a matter which will interest the community in various ways, in reference to the applications of Electricity. If what is stated be fully verified by practical results in the case referred to, the discovery will indeed be largely valuable, as it is theoretically beautiful.

In connection with the subject of illuminating cities and towns by Electricity, the writer for the *Intelligencer* says:

"Science, particularly electrical science, seems to be making fresh triumphs every day. We have now to record a new application of electricity by Dr. Joseph Watson, which is exhibiting in the neighborhood of Wandsworth. The great feature of the invention is, that the materials consumed in the production of electrical light are employed for a profitable purpose, independent of the illumination, and more than remunerating the entire expense; so that the light, which is rendered constant and brilliant, is produced for nothing. Thus, while the light is being produced by galvanic action, materials are introduced into the battery by which pigments of the finest quality are obtained; these are so valuable, that they considerably exceed the entire cost of the operation. Dr. Watson thus speaks of his invention in a pamphlet not yet published:

"'Our battery we have termed the chromatic battery, and its produce is colors. It may seem difficult to imagine how any number of galvanic arrangements can be made to yield a great variety of colors; but when it is remembered that the real number of natural colors is small, and that a difference of tint and shade imparts to each separate product a distinct commercial existence as a color, we may then be believed when we say, that by the use of not more than five substances introduced into our batteries, we are able to produce no less than one hundred valuable pigments, exceeding in value, by a great per centage, the original value of the article contributing towards their production. Our mode of producing these colors consists, not in any subsequent mixing of the products resulting from the working of our batteries, but is the result of the actual development of the electricity in the battery.'

"The exact process cannot be made intelligible by a short extract from the pamphlet, but the discovery is allowed to be the most valuable, and its perfect accomplishment undoubted."

Germane to the foregoing remarks about electric illumination, is a paragraph which we find among the items of the New-York *Daily Times*, to the effect that "an Electric Lamp has been put in operation in England by Dr. Watson and Mr. Prosser. The illuminating power of a single electric light, as tested by the photometer, is equal to that produced by 75 gas-burners, while the cost of its production is one twenty-fifth less than that of common gas. The current proceeding from a battery is never the same for any length of time together, and, therefore, if the electrodes—or points whence the light emanates—were not made to approximate and recede to suit its varying strength, the light could not be maintained."

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Atmospheric (Subterranean) Telegraph, *vs.* the "Underground Railroad."

As chroniclers of every thing Telegraphic, whether "in air, earth or water," we might subject ourselves to a charge of undue partiality to the Lightning lines, were we to overlook the projected "Atmospheric Telegraph," by which a man's trunk as well as his letters can be transmitted almost in a twinkling between New-York and Boston, and other places hundreds of miles apart. This new Telegraph (which, though atmospheric in principle, is "subterranean" in locality) will, when completed, furnish decided relief to the Electric Telegraphs, which have not yet been able (such is the "pressure of other business") to furnish transportation for passengers and baggage along their wires. Were one of these "Atmospheric Telegraphs" in operation any where near Mason and Dixon's Line, it would doubtless prove a powerful competitor with the "Underground Railroad" in facilitating the flight of "colored gemmen" on their way to Canada.

But, seeing what novelties the times are producing, and seeing around us the accomplishment of many things which were not long ago deemed utterly visionary, we do not mean to be understood as contesting the possibility, or even the probability, of successful results in the projected "Atmospheric Telegraph"—about which we find the following particulars in the *Boston Advertiser* of April (not the 1st, but) the 16th:

"We had an opportunity yesterday of examining, at No. 24 Merchants' Exchange, Mr. I. S. Richardson's ingenious invention called the 'Atmospheric Telegraph,' by which letters and parcels can be transported considerable distances with almost incredible velocity, rendering it practically nearly equal in speed to the Magnetic Telegraph, over which it has many advantages in other respects. The apparatus consists of a tube connecting the places between which communication is to be maintained, in which a sort of piston called "the plunger" is fitted, with a loose leather packing. The matter to be sent is enclosed in a bag attached behind this plunger. Its propulsion is secured by the pressure of the atmosphere of ordinary density behind it, that in front being rarefied by means of an air-pump, producing a partial vacuum. This propelling power is so great as to produce apparently instantaneous motion of the plunger with its load from one end to the other of the model tube on exhibition, which is about 30 feet long and 1½ inches in diameter; indeed, the plunger issues forth with so much force when confined, as to knock down violently a heavy billet of wood placed opposite the end of the tube, if it is left open. The speed is estimated at about one thousand miles in an hour.

"The apparatus is so arranged that there can be intermediate stations upon the line, at which the progress of the 'plunger' can be arrested, or, if preferred, it can pass directly through to the terminus.

"The mechanical difficulties in the plan which readily suggest themselves have been ingeniously and apparently effectually obviated by Mr. Richardson. The inconvenience of the sudden shock occasioned by the arrival of the 'plunger' at the end of its journey is avoided by an arrangement by which a portion of the air in front of it is compressed and allowed to escape but gradually, forming a sort of cushion to ease the jolt. The retarding effect of the friction caused by the motion of the large column of air which necessarily follows the plunger in the tube, is prevented by the occasional recurrence of valves in the tube connecting with the atmosphere to be opened by the plunger as it passes. The friction of the plunger itself is reduced to a very low point by the manner in which its packing is constructed.

"We are informed that the apparatus has met with the approval of several gentlemen competent to form a sound opinion, who have examined it.

"The patent-right for the machine is owned by the Atmospheric Telegraph Company, of which Mr. Richardson is agent. It it proposed to open the subscription books of a company under the name of the 'New-York and Boston Dispatch Company,' to construct a line between this city and New-York. The tube of this line, it is proposed, shall be two feet in diameter. The cost of laying it down is estimated at $2000 per mile. There will be supply valves as often as once in twenty-five miles, and intermediate stations at suitable points; for instance, at Worcester, Springfield, &c. There will be air-pumps at all the stations. Hourly mails may be made up and dispatched, a part of them at fixed hours, stopping at the stations, and the others proceeding throughout direct. It is expected that letters and parcels from New-York would be delivered in Boston in less than half an hour. A company able to carry mail matter at this rate of speed would be powerful competitors as contractors for performing the mail service. If a sufficient amount of matter is presented, it is claimed that the actual cost of transportation is not more than half that of any other method, while it is twenty times as fast. This line need not be straight, but can be curved so as to follow the face of the ground, or underline the channels of rivers.

"It will be observed that this invention bears some resemblance to the 'Atmospheric Railway' so much talked of at one time, but that it avoids the objectionable features of that scheme, as the tube is closed throughout. It is worthy the attention of business men. We are informed that Mr. Richardson has had in successful operation a line of 3-inch tube a mile in length."

Patent Extensions.

THE following article will be found interesting. Telegraphs, planing machines, and India-rubber, have been more prolific of law-suits than have inventions touching any other description of substances, processes or machinery:

THE INDIA-RUBBER CASE AGAIN—EXTENSION OF THE PATENT.

On the 24th day of February, 1839, Nathaniel Hayward, of Woburn, Mass., secured a patent for vulcanizing India-rubber by means of sulphur, which patent was assigned to Charles Goodyear—a man of a shrewd and future-grasping mind. Some idea of the importance of this improvement may be formed from the fact that it has been a subject of continual litigation for a number of years; yea, almost since the day the patent was issued. It is the real vulcanizing substance now used in the manufacture of India-rubber fabrics of every description. The claim is in these words, "the combining of sulphur with gum elastic, whether in solution or in substance, either by mixing with the digested India-rubber, kneading it, or sprinkling it on the surface of sheets and pressing it in."

The conspicuous litigants have been Goodyear *versus* Horace H. Day. Daniel Webster distinguished himself not many months before he departed from this earth, on the side of the complainant, before Judge Grier, at Trenton, N. J. That was a famous court scene; there were Webster and Choate, of Massachusetts, engaged in legal conflict "with eye to eye and foot to foot opposed." The fame of such legal champions brought together a crowd of admiring and wondering listeners, who "ne'er shall look upon the like again." The result of that hearing—it was not a trial at law—resulted in victory to the side on which the great deceased lawyer and statesman had devoted his talents and learning, and the result was an injunction to restrain H. H. Day from infringing on Goodyear's patent.

As the patent of Hayward expires on the 24th—Thursday next week—it was not to be expected that the proprietors of this patent would calmly suffer it to become public property without an effort to get an extension for seven years. Indeed, we have heard it stated, that the great amount of law business connected with this patent during the past few years was all a well arranged contemplated matter, in order to present a great bill of losses to prove that the inventor, in his agents, had not received sufficient compensation for benefits conferred upon community by the invention. Be that as it may—we cannot credit such stories—the extension was prayed for, and the case has been heard before the Commissioner of Patents. It was the most extraordinary hearing for an extension of a patent that has ever been brought to our notice. It continued for eight or nine days, we believe, from the 1st inst., before the Commissioner, and eminent counsel, three or four on each side, were employed by those interested in the patent and those opposed to it. This is the first time that such a mighty quantity of speech-making has been presented to a Commissioner of Patents; it shows us something of the value of the invention. But it is only a few weeks since that all the circulars issued from the Patent Office contained these words in reference to the extension of patents, "all arguments must be submitted in writing." That rule has been departed from, and we are afraid that it may lead to an increase of expenses to inventors by opening up a new field for lawyers' fees. It appears, however, that the law, Sec. 18, Act 1836, contemplated that argument—real argument—should be allowed, but it makes provision only for those opposed to the extension. It says, "Any person may appear and show cause why said extension should not be granted," but makes mention of the applicant furnishing his petition, proofs, and statements in writing only. It appears to us that no provision is made in the Patent Laws for such an exhibition of speaking and oratory as has lately taken place before the Commissioner of Patents in reference to the extension of this patent. The law is plain that the Commissioner shall *hear and decide upon evidence produced*, both for and against the extension of the patent, but this, in our opinion, has reference only to statements of facts, not speeches; but at the same time, it certainly means oral statements; we think there can be no doubt of this, and the present Commissioner has the same right to say how they shall be made, as the previous one to say, "they shall only be in writing." The public, however, should have full information about such things; we are only afraid, as we said before, that this new mode of hearing arguments will lead to a great evil in entailing unnecessary expenses upon inventors.

The great question discussed before the Commissioner was whether he had or had not a right to extend the patent to an assignee. Those opposed to the extension contended that he had no such right, and the applicants contended he had. The law by strict construction says, and means no more and no less than that the patent is to be extended to the patentee only. There is not a word in section 18, Act 1836, about an assignee, and that is the only authority the Commissioner has for his rule and guide.

In England it is not uncommon to extend a patent to an assignee in conjunction with a patentee, but not otherwise, so far as we are informed. It appears to us, however, that an assignee may often suffer injustice from infringers, without recompense by our laws, which grant a man a patent, but do not provide for its enforcement. In England the Attorney General always appears for the patent plaintiff in the Court of Exchequer, but this is not the case in our patent trials. It is a hard thing for a man to purchase a patent and then have to pay high fees to counsel to bring a case of infringement before the courts of the government which has granted it, whose title deeds have been infringed. Our inventors, we believe, would rather pay $60, or more, for a patent fee, if the United States District Attorneys were by law compelled to pursue infringers. The District Attorneys might get $1,000 per year additional salary from the patent fund, for the peformance of extra labor. As it regards the extension of a patent to assignees, however, it appears to us that Congress alone can do this, as no provision is made for an extension to such persons by our Patent Laws.—*Scientific American.*

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New-York, Albany, and Buffalo Telegraph.—Letter from the Superintendent, &c.

THE recent union of interests between the old Morse lines above-named, (of which Theodore S. Fanton has been President since its foundation,) and the Bain or O'Rielly Line along the same route between New-York and Buffalo, has been already mentioned in this Magazine; and we may now add, that the united lines are working with admirable promptness. (It was reported that the House Printing Line, on the same route, was also to be "annexed" to the above-mentioned union; but the House folks yet continue operations "on their own hook.")

Unions of companies are desirable when the *public* interest, as well as the interests of the stockholders, can be consulted and promoted; but it must be steadily borne in mind that, in an enterprise so essentially "public" as the Telegraph, the PUBLIC INTEREST must be considered quite as carefully as that of the owners of the lines. We are confident that the union of the New-York and Buffalo will be productive of public utility, as well as of pecuniary advantage to the stockholders; and we need scarcely warn the officers who manage the united lines, that the public will expect from the *union* even greater facilities than the lines *separately* could afford. We will be glad to chronicle any improvements (for improvements may be made even) on this well-managed line.

In this connection, we may be excused for introducing a letter from the present Superintendent of the united lines above mentioned, OTIS E. WOOD, Esq.; in which we recognize with satisfaction the prevalence of a friendly spirit such as Mr. President FANTON took early occasion to evince towards the object and character of this Magazine.

Office New-York, Albany, and Buffalo Telegraph Co.
Utica, December 8th, 1852.

MR. D. MANN:

MY DEAR SIR:—Business engagements have unavoidably delayed an acknowledgment of the receipt, some weeks since, of a copy of the "American Telegraph Magazine."

So universally has the Telegraph become extended throughout the United States and Canada, as well as throughout the world, that the want of some work devoted especially to the objects for which the "Telegraph Magazine" is intended, has become generally felt.

I need not say that the reputation and ability of the editor of the work just placed before the public—he being well and favorably known to "the FRATERNITY" and the public, as having been connected with all departments of the business—bespeak for it entire success.

Permit me to say that, while the work needs no other commendation than that found upon its pages, it gives us pleasure to recommend it to the patronage of every person in any way connected with the Telegraph business.

With assurances of high consideration,
I am, your obedient servant,
OTIS E. WOOD.

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"Novel Experiment in Telegraphing."

ALTHOUGH the matter is less "novel" than is supposed by our friends of the *Rochester Daily Advertiser*, the fact set forth in the following paragraph from that journal will not be without interest for many readers:

"We learn from Mr. Allen, the Morse operator here, that an experiment of a novel character was tried on the Morse Line of Telegraph. The ground wires at New-York and Buffalo were taken out, and a metallic circuit substituted: that is, the circuit was formed by the upper and lower wires of the line, thus making a continuous line of over a thousand miles in length, so that when the operator at either office wrote on one machine, he received the same on the other. The writing was thus sent 1,000 miles, or 500 miles and back, and not the least difference could be perceived in the striking of the two machines. The wires worked, if any thing, better and clearer under this arrangement of the line."

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Lake Erie Telegraph.

WE learn that Mr. Bishop, who has for a considerable time acted as Superintendent of the above line, has terminated his connection therewith, as have several of the operators at the principal offices. We are not informed of the cause of these resignations, but the condition, management, and prospects of the line for some twelve or eighteen months past have not been satisfactory or encouraging to stockholders.

The books of the Company are kept in Rochester, by the Treasurer, Mr. Hervy Ely. One or two small dividends have been made upon a *part* (how large a part we do not know) of the stock. We mention this so that persons purchasing this stock may first ascertain whether Mr. Ely will consider what they contemplate buying is dividend or non-dividend drawing stock, as in the one case it might be *valuable*, and in the other would probably be *valueless*. We presume there are few parallels in the history of incorporated companies to the past proceedings of the Lake Erie Telegraph Company.

George Allen, Esq., for several years past of Rochester, has been appointed Superintendent of the Lake Erie Telegraph Line.

Mr. Allen has experience, intelligence, and industry, and we look upon his appointment as a fortunate one for the stockholders. The Rochester Directory have acted wisely and for the best interests of the Company in securing the services of a practical and competent manager. The line has unquestionably been in a declining state for some time; but we presume it will now improve, and perhaps recover its former position. The "Lake Erie Telegraph" had at its commencement a fair prospect of paying as well as any line in the country, and judicious management would certainly have made it, at least, a fair investment for those owning stock in it. We trust that, under the administration of Mr. Allen, it will take rank among the most prosperous lines in the Union.

Telegraph Lines in California.

Two or more parties are now engaged in constructing, or arranging to construct, Telegraphs in California; and instruments and other supplies have been dispatched from New-York to San Francisco for the purpose. These movements, of which we will soon give some particulars, are more or less connected with some of the movements in Congress for lines across the continent. Morse and House instruments are to be used on the lines going up in California.

Union Lines.

The "New-York, Albany, and Buffalo Telegraph Company" have recently purchased the "Bain Line," which extends with two wires from New-York to Buffalo, with a branch of one wire from Syracuse to Oswego and Ogdensburg. This line is nearly new and in good condition. The same Company have rented the "New-York and Erie" Line, which extends from New-York to Dunkirk. In these arrangements, Mr. Faxton has managed well for the Company of which he is the President. He has secured valuable facilities for the prompt transmission of business from this city to the West, or to any towns in our own State. It is hardly possible that *all* the wires which this Company now controls, being on three sets of posts, on different routes, should fail at one time.

"Lightning-Arresters!"—Some Inquiries about their Merits.

Multitudinous projects have been mentioned for "arresting the lightning," which frequently "plays fantastic tricks" upon the Telegraphic wires. Several arrangements, intended to effect this desirable result, have been attempted on various lines, in different sections of the country.

As new propositions are occasionally mentioned for "improving" in this branch of telegraphic arrangements, it would enable us better to judge of the necessity for new apparatus, if we could ascertain the efficiency of the plans already followed on the lines whereon attention has been particularly turned towards a correction of the evil.

We will thank our Telegraphic friends to give us, in brief and lucid form, the results of their practical experience in the use or disuse of "Lightning Arresters"—showing the benefits or injuries, as far as they can be estimated, of the employment or disregard of precautionary measures against the "Spirit of Storms."

Susquehanna River and North and West Branch Telegraph Company.

To the Editor of the American Telegraph Magazine:

The following is a list of the officers of the "Susquehanna River and North and West Branch Telegraph Company:—

Dr. A. C. Goell, *President*, Philadelphia; T. O. Van Alen, Esq., *Treasurer*, Danville; Geo. M. Leslie, Esq., *Secretary*, Danville; Dr. M. C. Grier, *Superintendent*, Danville.

Richart and Phillips, Telegraphers at Pittston; Miss C. M. Collings, Telegrapher at Wilkesbarre; W. H. Raymond, Telegrapher at Kingston; Draper Smith, Telegrapher at Plymouth; H. W. Creasy, Telegrapher at Berwick; J. M. Chamberlain, chief, sons assistants, Bloomsbury; M. C. Grier, chief, W. A. M. Grier, R. M. Cathcart, and Isaac Grier, assistants, Danville; Forsythe and Priestly, chiefs, and Misses Agnes and Mary Forsythe, assistants, Northumberland; A. J. Rockafeller, Telegrapher at Sunbury; O. N. Worden, chief, and J. R. Cornelius, assistant, Lewisburg; J. Russel Wingate, Telegrapher at Milton; Hays and McCormick, Telegraphers at McEwensville; W. P. I. Painter, Telegrapher at Muncy; J. L. Mussina, chief, son assistant, Williamsport; C. Carter, Telegrapher at Jersey Shore; Jas. Kintzing, Telegrapher at Lock Haven; Saul McCormick, Telegrapher at Mill-Hall; George Furst, Telegrapher at Beach Creek; Joseph Schnell, chief, and A. C. Schnell, assistant, Milesburg; Thaddeus M. Schnell, Telegrapher at Bellefonte.

I would respectfully suggest the propriety of sending a copy to each of the officers on our line, and solicit them to subscribe to your very valuable periodical.

The Superintendent will, I think, interest himself in your favor.

It was by the kindness of Dr. Goell and Mr. Baldwin (of the Philadelphia office) that I was shown the first number of your Magazine; and it is by their suggestion, as well as by an article in the Magazine, that I take the liberty of addressing you. I shall be happy to give you any information in my power that you may desire. The Superintendent is not now at home, but will be shortly.

Very respectfully,
W. M. Grier, Danville.

British-American Telegraph Lines.

Electric Telegraphs are being extended steadily in Canada. Unlike the condition of things in Nova Scotia, the Canadian Government has not refused to allow charters or authority to any Company or persons that are willing to employ capital and enterprise in establishing Lightning Lines. It can hardly be credited that, should the subject be properly presented and fully considered in all its bearings by the Nova Scotia Parliament, less liberal rules will be allowed to prevail in that Province than in other sections of British America.

The successful operation of the "Montreal Telegraph Company," under the Superintendence of O. S. Wood, Esq., has been already noticed in the American Telegraph Magazine; and the Tariff of rates, showing also the extent of Lines belonging to that Company, appeared in the January number.

About the new Company in Canada, of which Mr. Purkis is Superintendent, we may add that we have information that it has lately added 180 miles to its Lines—making a total of about 800 miles now working under its charter—and about 600 miles additional will be added during the summer. It is designed to extend it through Canada from Quebec to Detroit, with branches in various directions. It is said to be a good line—well built and organized; though of this, we cannot speak from personal knowledge.

How far the new Company may interfere with the business and profits of the first-named ("Montreal") Company, "remains to be seen," as the newspapers say in such cases. At present, the stock of the "Montreal" is said to be "two per cent. above par." If so, it is rather better off than most Companies on this side of the British-American frontiers.

By the bye, we have read with interest the proposal of the Hon. William L. Mackenzie, for a Railroad and Telegraph Line from Quebec to the coast of Labrador, so as to bring both Railway and Lightning within five days of Europe—part of the plan being the establishment of steamers between Labrador and England. Although the American terminus of the proposed steamer line is rather farther *north* than may seem advisable at present to most minds, this is not the age or country for pronouncing hastily against its expediency.

Consolidation of Lines and Interests.

"Union and Consolidation" seem to be watchwords now among the American Railroad, Telegraph, and Steamer Lines. Among the most formidable results, may be mentioned the union effected between the Railroad Lines, owned lately by several companies between Albany and Buffalo, which Lines are now consolidated into one Line, under the title of the Central Railroad Company, with an aggregate capital of about $23,000,000. Other consolidations and combinations, on a smaller scale, have lately taken and are now taking place in Railway interests in different sections, of which the newspapers furnish particulars.

The two Steamship Companies on the Pacific, between Panama and San Francisco, have also lately united in one Line and stock.

Several Telegraph Companies have united, and more are preparing to unite. Necessity—self-preservation—a desire to promote the public interests, as well as to arrest or avert the ruinous effects of excessive competition, from which most Telegraph Lines have been suffering—have brought together various Companies that hitherto wasted their energies in competition to an extent that actually rendered themselves more or less incapable of fulfilling their duties to the Public. The sad experience of several persons who were most largely interested in establishing Telegraph Lines through the United States, can speak volumes on these subjects.

It is already well known that unions have been effected between the Morse and Bain Lines, so called, between New-York and Boston, and between New-York and Washington. The rival Lines between Louisville and New-

Orleans, one of them known as the People's (O'Rielly) Line, and the other as the Morse Line, have also been united lately; though, on what terms, we cannot precisely say. The New-York and Erie Telegraph Line, built by Cornell and Speed, has been united by a lease to the Morse or Faxton Company which owned the "old line" between New-York and Buffalo—which latter company also bought the Line built by O'Rielly between the latter points.

The House Printing Lines yet remain "unannexed." How long they will all continue in "single blessědness," this deponent cannot say—tho' it is not improbable that some of them may soon follow the fashion in forming combinations for the better advancement of their own interests and for enabling themselves better to discharge their duty to the Public.

A consolidation of various Lines built by Col. Speed, Mr. Cornell, and Mr. Wade, along with *some* of the Lines built by Mr. O'Rielly, seems also probable. This consolidation, if we can judge from what we hear of the arrangements which will govern it, will probably result in realizing for the Public an improvement in Telegraphic matters which will essentially increase confidence and business, and consequently benefit all concerned in the expected newly organized Telegraph System over the vast regions covered by the "Speed" and "Wade" Lines, as well as by the *portion* of "O'Rielly" Lines within the same territories.

The fact that, after so many years of toil and anxiety, so many of these lines have proved unprofitable to all concerned—alike profitless to the stockholders and to the contractors, who generally took a large portion of their pay *in stock*, which has been unsalable from the fact that the Lines paid little or no dividends—renders sufficiently obvious the necessity of different arrangements for the future; and we rejoice in believing that these new arrangements will render the improvement quite as satisfactory to the Public as to the Stockholders.

☞ The future, not very distant, will probably show that THE TELEGRAPH SYSTEM, wonderful as is what it has already accomplished, is capable of accomplishing far more for the convenience of society than is now generally contemplated.

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Natural Magnetism.

"THE editor of the Ste. Genevieve (Mo.) *Plaindealer* has received a beautiful piece of iron ore from the Pilot Knob, which possesses magnetic properties in a very high degree. It is thought that the mountain abounds in this species of ore."

"National Telegraph Convention."

(The Second—held March, 1853.)

THE call for a meeting under the above-quoted title, published in former numbers of the "*American Telegraph Magazine*," was responded to by an assemblage (at Washington City, on the 5th of March, 1853) of gentlemen connected with several important Lines in different sections of the Union. The assemblage was confined to representatives of Lines using Morse instruments; but several extensive ranges of Lines using such instruments (including *all* of the Lines built by Messrs. Speed, Cornell and Wade, and *some* of those built by Mr. O'Rielly) were not represented on this occasion—owing to various causes; though, it is proper to add, that those causes do not imply any want of appreciation of the necessity of improved organization in the operations of Telegraph Lines in the United States and British America. On the contrary, we happen to know that the business which then occupied Messrs. Speed, Cornell, Wade, &c., in another section of the Union, had direct reference to an improved organization of several vast lines extending between the Atlantic, the Lakes, and the Mississippi.

We rejoice at all these movements. Much good must result from them; they were greatly needed, and further and energetic efforts are needed, to render *the Telegraph* what it *ought to be*, for the common good of the public and the stockholders.

It will be seen that the proceedings of this *Second* Convention of Telegraph Lines are generally in unison with the objects of the *First* Convention, of which latter body, a sketch is published in this connection, (vide article on p. 286,) by way of preserving memoranda of the historical order of these efforts for improving the Telegraph system. It will be noted, however, that the *first* Convention was not exclusively of persons representing lines worked by *Morse* instruments. Among those present, were Messrs. Henry J. Rogers, Mr. Lefferts, L. W. Jerome, C. H. Hudson, who were connected with four important lines then using Bain's Electro-Chemical apparatus, in different parts of the Union.

The gentlemen who appeared in the second Convention, lately held in Washington City, were, as stated in the printed record before us,

Messrs. H. O. Alden, and James Eddy, of the Maine Telegraph.

Mr. F. O. J. Smith, of N. Y. and N. E. Union Telegraph.

Messrs. William M. Swain, Amos Kendall, B. B. Trench, and George R. Dodge, of the Magnetic Telegraph Company, the Western Telegraph Company, and the Washington and New-Orleans Telegraph Company; Messrs. J. K. Morehead and James D. Reid, of Atlantic and Ohio Telegraph Company; Messrs. A. C.

Goell, of Philadelphia and Wilkesbarre Telegraph and Susquehanna River Telegraph Company; Mr. George C. Penniman, of American Telegraph Company; Mr. J. N. Alford, of Ohio and Mississippi Telegraph Company; Mr. J. D. Caton, of Illinois and Mississippi Telegraph Company; Mr. J. D. Reid, of People's Telegraph Company; Messrs. Isaac M. Veitch and Tal. P. Shaffner, of St. Louis and Missouri River Telegraph; Messrs. William Tanner, T. P. Shaffner, and D. S. Crockett, of New-Orleans and Ohio Telegraph Company; T. P. Shaffner and I. M. Veitch, of St. Louis and N. O. Telegraph Company; Mr. W. J. Bacon, of N. Y., Albany, and Buffalo Telegraph. Mr. B. B. French was elected President, and Mr. Tal. P. Shaffner, Secretary.

The proceedings appear to have been interesting, and occupied portions of two days. The Resolutions adopted by the Convention, and the Address issued by the Executive Committee, set forth the objects of the movement in a light which will render the whole proceedings intelligible and satisfactory, and it will afford us pleasure to recur occasionally, as we have already frequently spoken, of most of the important subjects on which this Convention has acted.

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ADDRESS,

To the Presidents of the several Companies using Morse's American Electro-Magnetic Telegraph, in the United States, Mexico and the British Colonies in North America.

Gentlemen:—In obedience to the directions of the Telegraph Convention, recently held in the City of Washington, the undersigned have the honor to transmit a copy of the resolutions adopted by them, and ask the concurrence and future coöperation of your respective Companies.

The members of the late Convention, as well from their observation and experience abroad, as by an interchange of views among themselves, were deeply impressed with the necessity of some organization to preserve harmony and produce uniformity in the mode of doing business by the many Companies using Morse's Telegraph. Obviously, this can be attained only by laying aside, for the occasion, all animosities and jealousies which may have grown out of competition, or the violation of exclusive privileges, real or supposed; and waiving for that purpose only, but without abandoning, all conflicting claims. Acting upon these principles, the recent Convention was distinguished by the harmony and good feeling which characterized its sittings, giving promise of much good to be derived from the annual recurrence of such assemblages.

It is, perhaps, a public misfortune, that all the principal Telegraph Lines of the country were not subject to one control, governed by one set of rules, and presenting in all cases an undivided responsibility. As such an arrangement is obviously impracticable, it becomes important to the companies, and to the public, to secure by other arrangements, as far as practicable, the advantages which would result from such a controlling power. Many evils have already shown themselves as incident to the present system, among which are the following, viz.:

1. The adoption of different abbreviations and signals on different lines, rendering their language measurably unintelligible to each other. On some lines it has even been proposed to change the elements of which some of the letters of Morse's Alphabet are composed. It requires no argument to prove that the tendency of these practices is to produce utter confusion in the business of telegraphing, and if allowed to proceed, those engaged in it will become as unintelligible to each other as were the builders of Babel after the confusion of tongues. This mischief cannot be obviated otherwise than by a concert of action among the companies, and the adoption of one general system, setting their faces against any alteration therein, unless it be by common consent. As a basis for all future action, we earnestly recommend the adoption of the seventh and eighth resolutions herewith transmitted.

2. Perhaps the greatest evil existing under the present system, is the absence of due responsibility on account of messages sent over the lines of two or more companies, which are unreasonably delayed, or never delivered at all. We all know that perfect certainty of prompt delivery is not attainable in the present condition of the Telegraph lines generally; but it is not difficult to adopt and enforce such regulations as will greatly lessen the disappointment and irritation so prevalent among the customers of the Telegraph, in consequence of the failure of their messages to reach their destination, or their inability to procure information as to what has become of them.

The idea so prevalent among operators, that it is an injury to their line to let connecting lines know when they are down, is fatally erroneous. They receive messages and retain them, awaiting the repair of their line; and when the station whence the message came inquires after them, too frequently no answer is returned. The customer becomes impatient and irritated, and demands the refunding of his money, which is refused; whereupon he curses the Telegraph, and ceases to use it. None of us, it is confidently believed, have duly appreciated the injury done to all the Telegraph Lines by such short-sighted policy.

All this can be readily obviated. Let each line when down promptly inform every connecting line of the fact. If there be any other line by which messages appropriately belonging to the line thus down can be promptly sent, let them be silently received and so forwarded. If not, let the customer be frankly told that a connecting line over which his message must pass is down, and that it is uncertain when his message will reach its destination. If, thus informed, he chooses to leave his message, he cannot complain of fraud or imposition.

The undersigned are perfectly satisfied that incomparably more harm arises from the omission to give information in such cases, than from the failures themselves; and that multitudes abandon the use of the Telegraph, not because their messages have been delayed or lost, but because they can obtain no satisfactory explanation of the cause.

Intimately connected with these practices is the subject of refunding. Customers are put to great inconvenience in obtaining evidence that their messages have been delayed, mutilated or lost, when the Telegraph ought to know all about it. That the station from which the message is sent is not in possession of the facts when messages are delayed or lost, is the fault of other stations or connecting lines, in withholding information which ought to be given.

These evils the Convention hope to mitigate by the rules laid down in their second, third, fourth and fifth resolutions, which are earnestly recommended to the adoption of your respective companies.

To give greater efficiency to the principles therein laid down, the Committee recommend that the following explicit instructions be given to the chief operator at the terminal station of every line, viz.:

1. That when any line ceases to operate, in whole or in part, for the space of one hour during ordinary business hours, notice thereof shall be given to all connecting lines, specifying what part of the line, if any, is still in operation; and that when the line again commences to operate, notice thereof be also given immediately to all connecting lines.

2. That operators of connecting lines, receiving such notices, shall immediately send them along their respective lines.

3. That when from any cause a message from another line or station cannot be forwarded, or, if it has reached its destination, cannot be delivered the same day, notice thereof shall be given to the station whence it came.

A strict observance of these rules would remove many causes of irritation which now beset the Telegraph business, and would obviate much trouble now experienced in the matter of refunding.

The second resolution purports to regulate the principles on which moneys refunded sh be charged upon the several companies concerned. In the discharge of the duties imposed on the Committee by the fourteenth resolution, they recommend the following rules for giving effect to the second resolution, viz.:

1. Where refunding is required by reason of an error of the Telegraph, the whole amount shall be chargeable to the company on whose line the error was committed.

2. Where refunding is required by reason of delay in the transmission of a message, the whole amount shall be chargeable to the company on whose line the delay occurred, unless said company shall show that it was occasioned by providential or uncontrollable circumstances, of which the connecting lines were duly informed.

3. Where refunding is required by reason of neglect to deliver a message when received, the whole amount shall be chargeable to the company at whose station the neglect occurred.

4. In all cases where refunding is required, the manager of the station where the money was paid in the first instance, shall be sole judge of the justice of the demand; and if any dispute arises as to what line is chargeable with the amount refunded, or any part of it, the question shall be referred to the Presidents or principal managers of the lines concerned; and if they disagree, the subject shall be referred by them to the Corresponding Committee, whose decision shall be final. *Provided*, that when any line refuses or omits to give information as prescribed in the third and fourth resolutions, the whole sum refunded shall be charged to such line.

The other resolutions adopted by the Convention do not appear to need any explanation. That uniformity may at once be introduced and preserved, it is recommended that they be all adopted, though they may in some particulars be considered objectionable, and that any desirable modifications be reserved for the next annual Telegraph Convention.

The Committee trust that all Telegraph Companies in North America using Morse's system, will cause themselves to be represented in the next Annual Convention by delegates formally chosen and furnished with credentials, and that they be authorized to pledge the faith of their respective companies to carry into effect the resolves of the Convention, so far as they may relate to the mode of doing business, their intercourse and responsibilities among themselves. It is only by receiving the vote of the General Convention as authoritative, that it can become permanently useful.

In conclusion, we beg that, as soon as practicable, you will submit the resolutions of the late Convention, together with the recommendations of this Address, to your Company or Board of Directors, and communicate the result of their action thereon to our Chairman, that we may notify each Company of their adoption or rejection by the rest.

B. B. French,
Amos Kendall,
J. D. Caton,
J. K. Morehead.
Wm. M. Swain.

RESOLUTIONS

Adopted by the American Telegraph Convention, held at the City of Washington, on the 5th day of March, 1853.

1. That proper names composed of two or more words, which, in ordinary usage in writing or printing, are commenced with capital letters, shall be counted as being composed of as many words as are commenced with capitals. All other compound words which are joined continuously together in ordinary language as recognized by standard lexicographers, shall be counted as one word—and that compound words, which in ordinary writing or printing are usually joined by a hyphen, be counted as two or more words.

2. That when, by reason of a failure to deliver, error, or unnecessary delay, the tariff collected on a dispatch requiring transmission over more than one line has to be refunded, the whole amount shall be justly chargeable to the line so neglecting to make or preventing good service, and be collectable upon suitable evidence thereof. *Provided*, that where providential or uncontrollable circumstances prevent suitable service by one or more of the lines over which transmission is necessary, then the lines shall bear the amount refunded according to the respective tariffs charged thereon.

3. That messages of inquiry and answers thereto, from one line to another, shall precede all other business: *Provided* that such inquiries be solely in reference to the transmission and delivery of messages, and that whenever a message cannot be delivered from any cause, notice be at once given thereof, that useless inquiries may be prevented.

4. That it is important to the efficient and harmonious transaction of business, passing over two or more lines, that whenever a break occurs on any line, information thereof, and the place where, be immediately transmitted to all lines connecting immediately with that line, and the like information so soon as said break is repaired.

5. That it be deemed important that in the receipt, transmission and writing out of messages intended to be passed over to connecting lines, the full and explicit address of its designation be given in letters, and that *no abbreviations be suffered to be made by the operator or copyist, in any message of a customer;* and further, that in all messages passing over any line, the number of words of which the message is composed be checked.

6. That no message to be transmitted over a connecting line shall be received at any office for the transmission of which payment is to be collected, unless it be an answer to a message marked "answer paid," by the office from which the original message emanated.

7. That the Morse Alphabet be preserved as now existing on all lines, with the exception of a substitution of the spaced letter C for K, and the K for C.

8. That the following be recognized as abbreviations to be used as general signals, and considered as checks:

W	for Words.
R D H	" Refunding message free.
Cl	" Collect.
Pd	" Paid.
D H	" Free.
R T	" Repeat.
S S S	" Finish Signal.
APD	" Answer Paid.
2.	Messenger will wait for answer.
3.	Answer by Telegraph, payable here.
4.	Answer immediately by Telegraph.
9.	Was message received and delivered?

9. That lines running east and west regulate their hours of operation, either by the time of their eastern or western terminus or at some other point upon the line, and have the same published to the other companies.

10. That, in the opinion of this Convention, each line of Telegraph, working under the Morse Patents, should be known by its corporate title.

11. When it is practicable, we deem it due to public convenience, and the more rapid dispatch of business from one line to another, that where two or more lines terminate in the same city, they should unite in the same office.

12. That whenever an employee may be discharged for any breach of integrity or duty, which may disqualify him for proper employment by another company, it shall be the duty of the company so discharging to inform all other companies thereof, with the specific charges for which discharge was found necessary. *Provided*, that in the event of a restoration by said company of such person, the like notice be given, with the reasons therefor.

Resolved, That no operator ought to be employed on any line, after having been qualified or employed previously on any other line, unless he should produce a satisfactory written recommendation for capability, integrity and ndustry, from the President or Superintendnce of such other line. "And whenever an perator or employee shall wish to leave the service of one company, it shall be the duty of the proper officer of such company to give him a just statement of his qualifications, unless he shall be deemed unworthy of further employment."

"And this Convention recommend to all officers and Superintendents, to refrain from tempting competent operators to forsake the line in whose service they are engaged, and embark in the service of other lines, by the offer of higher compensation, without first consulting the company from which the operator comes, and that any such practice should be steadily and uniformly discontinued."

13. That a General Convention of Representatives from the different Telegraph Companies, similar to this, shall be held annually hereafter; the next Convention to be held at the city of Washington, on the next Monday after the fourth day of March, 1854.

14. That a Committee be appointed, styled the Corresponding Committee of the Morse American Telegraph Convention. The duties of the said Committee shall be as follows, viz.:

1st. To consider and act upon all disputed questions that may be referred to them by the respective lines of America.

2d. To carry out such measures as may be referred to said Committee by this Convention.

3d. To perform all, and severally, such duties as may be by them deemed promotive of the interest and welfare of the Telegraph enterprise, consistent with the principles adopted by this Convention—not to interfere with the management or special interest of any given line.

15. That the Corresponding Committee be requested to revise the tariff of charges on the various Telegraph Companies under the Morse Patents, and recommend a uniform system to operate throughout the country as far as practicable.

16. That it shall be the duty of the Corresponding Committee to encourage the establishment, at some central point, of manufactories or dépôts of all the necessary materials, such as acids, instruments, stationery, used or consumed in the conduct and management of Telegraph Lines.

17. That it be the duty of the Corresponding Committee to furnish to the Presidents of each Telegraph Company throughout the United States, the Canadas, New-Brunswick, Nova Scotia, and Mexico, a copy of the resolutions of this American Telegraph Convention.

(Proceedings of 1850, referred to on page 282.)

NATIONAL TELEGRAPH CONVENTION.

(The first— 850.)

Pursuant to the foregoing call, Delegates representing several of the principal Telegraph Companies, assembled in the Directors' Room of the Telegraph Office, 181 Broadway, New-York, on Wednesday, July 17, 1850.

The Convention was organized by the appointment of Henry O'Rielly as President, and L. W. Jerome, Secretary.

On taking the chair, Mr. O'Rielly explained the objects of the Convention. From the commencement of his connection with the Telegraph enterprise, five years ago, when not a single line had been built on individual account, and when none was in operation except the small experimental section constructed by the Government between Baltimore and Washington, he had proposed in the first circular which he issued, that, on the completion of the lines then projected, and all of which had since been constructed, (making over six thousand miles, embraced in the division known as the "Atlantic, Lake, and Mississippi Telegraph Range,") "*each section* shall appoint *a delegate* to form a *General Board* for equalizing the *tariff of charges*, and otherwise *promoting public convenience* and the *general welfare of the enterprise;* the interests of each individual section and of the public requiring *a thorough organization of the lines*, by the establishment of such general and fundamental rules as the said General Board may deem requisite for the *harmony and common welfare* of the various sections of Telegraph included within the Atlantic, Lake, and Mississippi range."

The idea here set forth had been kept steadily in view by him, (Mr. O'Rielly,) it having been published in connection with prospectuses for all the lines built by him. The time had now come, in his opinion, when this general organization should be effected; and with a view of its accomplishment, this Convention was called.

The effect of an organization, such as has been indicated, will be to harmonize the different lines in their business arrangements, and to impart unity and efficiency to the Telegraph system. There ought to be a uniformity of tariffs adopted, and those tariffs should be lower on messages going over a number of lines, than the proportionate rates charged over a single section. And if communication is temporarily interrupted over the shortest route to a given place, it should be so arranged that we may send messages by other routes, though much longer, at the same price. If we can reach the point at all, we ought to do so at the same charges imposed for sending over the usual or shortest route.

Again: the organization ought to be so perfected and completed, that delays and errors, now of such frequent occurrence, may be promptly investigated and as promptly corrected. Instances are every day and constant, in which messages going over a number of lines are unreasonably detained, lost altogether, or, which is often the case, so changed from the original dispatch as to be unintelligible, or conveying different language and intelligence from what was intended. This ought not to be. Such annoyances tend to destroy all confidence in the Telegraph system, and people rather prefer to await the slow process of mail conveyance and delivery, than incur hazard and disappointment, and perhaps positive loss and injury, by trusting the Telegraph. As soon as we can perfect the system by an organization such as is contemplated, so that we may have a constituted authority for the supervision of business and the correction of errors, thus securing harmony in the operations of the different lines, and where there is a wrong, to have it promptly corrected by the removal of its cause; and when, too, we are enabled to do our business with lightning dispatch and with commendable correctness, over long as well as short distances—then, and not till then, will the Telegraph enjoy, to its fullest extent, the confidence of the public; and then too will that confidence, ever generous as it is, and aiding as it always does the cause of reform and progress, bestow upon this enterprise a degree of patronage it has never before enjoyed, large as it has been from the beginning. Commensurate with the efficiency of the Telegraph which the proposed organization is intended to promote, will be the patronage it receives. On this consideration—that of self-interest—as well as the duty we owe the public, we ought to adopt speedy measures to harmonize the lines in a general organization.

So deeply have I been impressed (said Mr. O'Rielly) with the present and pressing necessity of this measure, that upon my individual responsibility I have established the general office at 181 Broadway, in this city, as a beginning towards the accomplishment of the organization. Here, in New-York—the great focus-point of business for the United States, and I may say the Continent—seems to be the place for the head-quarters of the general organization, which, with such an office as has been opened, and under the direction of efficient management, may be the means of effecting the desired union of the Telegraph lines, and the consummation of the reform so much needed.

With these remarks, gentlemen, I submit this whole matter to your consideration, trusting to your good judgment to supply such suggestions, and to originate such measures relating to the same, as the importance of the subject may require.

Henry J. Rogers, representing the "North American Telegraph Line," extending from New-York to Washington, remarked that he had long seen and felt the necessity of such an organization as was now proposed. In union there is strength, and without union we never can advance another step in promoting the utility of the Telegraph system. He subscribed fully to the opinions expressed by Mr. O'Rielly, and would cheerfully concur in any system of measures calculated to effect the much-needed Telegraph union and reform.

M. Lefferts, Esq., President of "Merchants' Telegraph," from New-York to Boston, and the "New-York State Line," from New-York to Buffalo, being called upon for an expression of his views on the subject, said that in order to place this matter in a practical shape, there ought to be, in his opinion, definite and official action by each Company. An informal meeting may devise and recommend measures, but before going into effect, those measures must be officially ratified and confirmed by the Companies. Unless we have the authority, we cannot speak for our Companies, but we may recommend measures for their acceptance. In this, as in all other matters, it is requisite that a practical business rule should be applied. If we do not make the application, we shall find ourselves at sea without rudder or compass to guide us. "Stick to business, and business will stick to you," is a maxim worthy of all observance and acceptation.

In reference to the proposed general organization, (remarked Mr. Lefferts,) I cordially approve the idea. The only thing to be done is to get it in a tangible shape for adoption. This, I think, may be done; but we must have a full conference and understanding first. The reason why people have had so little to do with the Telegraph, is because of its mismanagement. By better organization and management we make an interest with capitalists by which increased value is given to the enterprise. In showing what business method will accomplish, I may perhaps without vanity refer to the operation of the Merchants' Line, between this city and Boston. We have made it a point from the beginning to do business promptly on that line, to do it as we agree, and without resorting to the artifice of false promises. Well, what has been the result? The Merchants' Line has probably done a larger business, received a better patronage than any line has ever enjoyed on that route, notwithstanding two other lines have been in operation all the time. This only goes to show what may be accomplished in Telegraphing if it be conducted as it should be, in accordance with business principles. If we can effect a general organization of the lines embraced in the extensive range constructed by Mr. O'Rielly—such an organization as would induce them to act in business concert and harmony, and through which errors may be detected and corrected, and messages transmitted ultimately with as much certainty over a number of lines as they now can be over a single one—the business will increase to an extent which we can scarcely realize now, sanguine as may be our anticipations.

Heretofore, said Mr. Lefferts, the public have had no responsible power to apply to when errors have been committed in the transmission of dispatches. They could simply go to the office where the message was left, and the only satisfaction they could get there would be the assurance that the message was sent over their line correctly and punctually. If urged quite earnestly, perhaps some little pains might be taken to ascertain the source of the difficulty; but "what is every body's business is no body's business," and the investigation amounts to nothing. So great has become this evil of Telegraph errors, that unless something is done as proposed by this general organization of the lines, it will soon become a question in law how far and to what extent a Telegraph line is responsible for the nonperformance of what it undertakes to do in forwarding dispatches, and for which the Company receives payment. People will not suffer to be swindled with impunity, and they ought not to. We must organize the system thoroughly to make it what it should be. In this matter we owe much to ourselves and much to the people. We owe something, also, to Mr. O'Rielly, who originated the idea of the general organization, and through whose efforts the Telegraph enterprise has assumed an importance, from its extension over thousands of miles, which it could not otherwise possess. I am anxious to have the organization effected *promptly*, but at the same time I insist that the work should be accomplished with care and prudence, and with a steady eye to the best interests of all the lines entering into the arrangement. We can now adopt a plan, and that plan may be officially assented to and approved by the several Boards of Directors.

Mr. JAMES W. WARD, of Cincinnati, inquired whether there was exact authority for us to do any thing now. He would suggest whether a committee should not be appointed by this meeting to confer with the several Companies and obtain the requisite authority.

Mr. C. H. HUDSON, of the Boston and Portland Line, thought the necessary regulations could be agreed upon now, subject to the concurrence of the several Boards.

Mr. WOODRUFF, of the Louisville and St. Louis Line, said, that unless the rules and regulations for the general organization could be definitely settled and published, so that we may know and see the benefits to be derived as well as the expenses incurred, he would not for a moment think of entering into any arrangement. We must see our way clear first, then go ahead.

Some further discussion followed in reference to the manner of proceeding in effecting the organization, when, on motion of Mr. Lefferts, the following resolution was unanimously adopted:

Resolved, That a committee of three be appointed by the Chair to draft resolutions expressive of the sense of this meeting, and also to propose a plan for the general organization of the Telegraph lines embraced in the O'Rielly "Atlantic, Lake, and Mississippi Range."

The Chair appointed the following gentlemen such committee: Messrs. LEFFERTS, ROGERS, and WARD.

On motion, the Convention then adjourned till the following day, then to hear the report of the committee, and to take such further action as should be deemed expedient.

[The Address reported by this Committee, embodied many valuable remarks, which will be quoted, wholly or partially, in a future Number of the Telegraph Magazine.]

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Professor Morse's late allusion to the origin of the Electric Telegraph.

AT a meeting of the Association of the Alumni of the University of New-York, some Telegraphic allusions occurred, which deserve record in the American Telegraph Magazine. We quote from the report of proceedings in the *Tribune:*

"The President now proposed the health of Professor Morse, inventor of the Electric Telegraph. This was received with loud applause. The Professor responded as follows:

"'When I received the flattering invitation of your Committee to be present on this occasion, and at the coming of age of your honored Association, (for, it seems, this is your 21st anniversary,) my first impulse was to decline; but on second-thought, I sent you my acceptance, for I had some ancient recollections and endearing associations connected with the University, which I wished to revive more vividly, and to strengthen. Shall I say it? I was a little startled at the phraseology of your worthy President's note; he says, "The Alumni of the University are justly proud of the name and fame of their Senior Professor." *Senior Professor?* Yes, it is indeed so. Sixteen years have brought me unconsciously to this position. Yesternight, on once more entering your chapel, and while listening to the lucid and able address of the head of the Medical Department, I more than once realized a Rip Van Winkle sensation. There were the well-known walls of the venerable pile, unchanged; the same marble staircase and marble floors I once so often trod, and so often with a heart and head o'erburdened with almost crushing anxieties. Separated from the chapel but by a thin partition was that room I occupied, now your Philomathean Hall, whose walls—had thoughts and mental struggles, with their alternations of joys and sorrows, the power of being daguerreotyped upon them

—would show a thickly-studded gallery of evidence that there the Briarean infant was born who has stretched forth its arms with the intent to encircle the world. Yes, my worthy friends, that room of the University was the birth-place of the recording Telegraph.

"'Attempts, indeed, have been made to assign to it other parentage, and to its birth-place other localities. Personally I have very little anxiety on this point, except that the truth should not suffer; for I have a consciousness which neither sophistry nor ignorance can shake, that that room is the place of its birth, and a confidence, too, that its cradle is in hands that will sustain its rightful claim.

"'You have been pleased to honor me by your attentions this day. Be assured, it is one of my most gratifying amends for the many trials through which I have passed, that I have the generous appreciation of the Alumni of our University. The credit of my invention does pertain to your Alma Mater; and if this fact adds character and name to our institution, so that the memories that are awakened by the name of the University shall be influential in restraining her sons from all that would tarnish her fair fame, and inspire ambition to add to her honors, I shall experience a higher gratification than any personal deference that has been or can be bestowed upon me by foreign nations or my own countrymen. I would propose to you the following sentiment:

"'*Your Alma Mater*—May she never have occasion to blush for any of her sons, nor ask in vain their sympathy and aid.'"

Important Verdict against a Telegraph Company.

It behooves Telegraph Companies to prepare themselves for being held to stricter accountability than heretofore, for errors in transmitting dispatches.

The peculiar public feeling which prevailed for some time in favor of the Telegraph, and other circumstances, prevented aggrieved parties from seeking redress at law in many cases where it was important alike to the Telegraph and the Public that examples should be made as warnings against future abuses. The scene is now changing. Negligence and other defects of the Telegraph System must no longer hope to escape with impunity from those whose interests have been injured by blunders or other improprieties in transmitting dispatches.

On a late occasion, Bowen & M'Namee of New-York recovered a verdict against the "Lake Erie Telegraph Company," in a suit at Cleveland, for the erroneous transmission of a dispatch. It seems that an Ohio merchant telegraphed to Bowen & M'Namee to send by Express "one *handsome* shawl," of a particular quality. The telegraph dispatch was altered, in transmission to New-York, so as to read "one *hundred* shawls," &c. Hence, damages were claimed, and the Jury gave damages accordingly against the Telegraph Company on whose Line the error occurred. In justice to the *other* Lines, it is proper to state that the Line which was thus mulcted is one of those built by O'Rielly, but with the management of which he has no connection.

Such verdicts will have a good effect in quickening the attention of Directors and Stockholders towards greater accuracy and fidelity in transmitting Telegraph business for which they may be responsible.

New-York and New-England Union.

The New-York and New-England Union Telegraph Company have recently removed their offices in New-York from No. 5 Hanover street and No. 29 Wall street to corner of Wall street and Broad street. This latter is unquestionably one of the best points for business in the city, and Mr. Swan, the capable Superintendent of the line, deserves much credit from the Company for securing so fine a location and arranging the office in such complete style. Probably no office in the country is so perfect in all its arrangments. The room for the reception of communications is on the first floor, the operating-room, superintending-room, messenger-boys'-room, battery-room, all being alone and separate from each other. This office is as it should be—upon it no proper expense has been spared and no improper expense lavished.

In Mr. Swan the public will find a courteous and gentlemanly officer, and in him the Company, over whose property he has supervision, have secured a person who has capacity sufficient to comprehend and energy enough to execute whatever is required to make the Union Line prosperous and profitable. We have known Mr. S. since he commenced the Telegraph business. He has steadily advanced without any *foreign* aid, from the place that a novice in the art usually holds to one of the very first positions which the business affords. We trust that the Company will make it for his interest to remain in their employment.

The Crystalotype.—The *Tribune* has the following:—"The latest effort of invention, in the way of art, is one of singular beauty, called the Crystalotype, invented and patented by John A. Whipple, of Boston, and brought to this city and now in practice by Root, the daguerrean artist, No. 363 Broadway. The crystalotype is a method of taking likenesses upon glass and paper, so that when finished they present all the beauty of an actual painting, with the unerring accuracy of the daguerreotype likeness. The process is easy, and when one picture is made, hundreds of copies may be taken—thus in a measure rivalling the steel-plate press," &c., &c.

Washington and New-Orleans Telegraph Company.

THE annual meeting of this Company was held in Washington on the 6th and 7th inst., and the following officers were elected for the ensuing year: Elam Alexander, the former President, and Hon. Amos Kendall, former Treasurer, having declined reëlection, Smith Mowry, Jr., Esq., of Charleston, S. C., was elected President; D. F. Clark, of Macon, Ga., Secretary; and B. F. French, of Washington, Treasurer. On the announcement of his election as Treasurer, Mr. French resigned his office of Chairman of the Board of Trustees, and George Wood, Esq., of Washington, was elected to fill his place. In order to facilitate the transfer of stock, and for the convenience of stockholders, a resolution was adopted to opon an office for the transfer of stock in the city of New-York, and Edward G. Hyde was appointed commissioner to open said books and transfer stock in that city. The operations of this Line are beginning to realize the hope of the projectors. The Company is now entirely free from debt, and a dividend of 5 per cent. was declared, payable on the 20th inst.

New-Orleans and Ohio Company.

THE following Officers were elected unanimously by the May meeting of this Company:—

WILLIAM TANNER, *President.*

GEO. L. DOUGLAS, *Secretary and Treasurer.*

W. D. Reed, H. H. Forthy, James B. Waller and Samuel Casseday, *Directors.*

St. Louis and New-Orleans Company.

AT a late meeting of this Company, the following gentlemen were elected its officers:—

TAL. P. SHAFFNER, *President.*

M. W. COLE, *Secretary and Treasurer.*

D. A. Given, John W. Jones, James B. Husbands, John F. Harris, of Paducah; I. M. Veitch, G. B. Allen, St. Louis; J. N. Littlejohn, St. Genevieve; Robert Sturdivant, Cape Girardeau; and H. F. Given, of Smithland, *Directors.*

CHLOROFORM is being used to remove bees from honeycombs. The hive is placed above a chamber having a glass window at one side, and a small hole pierced at the other. The chloroform is put into a small bottle having two tubes through its cork, only one of which is allowed to come into immediate contact with the chloroform. The tube which does not come into immediate contact with the chloroform is inserted into the small hole on the side of the box, and by blowing into the other, the chamber is soon filled with the gas, and they tumble out into a box below.

St. Louis and Missouri River Telegraph Company.

THIS Company held its Annual Meeting on the 20th May. The following were elected officers for the current year:

Isaac M. Veitch, President; S. B. Morris, Secretary. Directors—Hon. John How, Tal. P. Shaffner, Gerard B. Allen, E. K. Woodward, S. H. Laflin, of St. Louis; E. B. Cornell, Jefferson City; W. H. Trigg, Boonville; Robert Hull, Lexington; W. McCoy, Independence; Hon. S. P. McCurdy, Weston; E. Livermore, St. Joseph.

The Board of Directors have just declared a dividend equal to four per cent. on the original capital stock of the Company. The affairs of the line are encouraging, and it has met with less interruption than any line we know of. A branch line is just being finished to connect with this line at Boonville, running to Glasgow and Brunswick. Efforts are being made also to construct a line from Jefferson City or Boonville, to Warsaw and Springfield. These two lines will be independent Companies, but, connecting as they will with the St. Louis and Missouri River Line, they must throw a large amount of business over it, and considerably increase its receipts.

* * *

HEAT FROM FRICTION.—Dr. Alexander Mayer, a French physician, has written to the *Presse*, announcing that he had met with an intelligent and skilful mechanic who has solved the problem of obtaining heat for all the purposes for which fuel is now employed, by the means of friction, and that he will soon be able to exhibit to the public an apparatus by which any quantity of heat may be obtained by friction, without fuel of any kind, for the purpose of domestic use, or for the generation of steam for steam engines.

DURING a thunder-storm in December, says the Panama *Herald*, nearly 800 head of cattle assembled in a corral on a "hacienda" about ten leagues from Panama, together with the men who were employed watching them, were all struck to the ground by a thunderbolt that fell among them, but that fortunately neither men nor cattle received any injury.

HILLOTYPICAL.—A letter in the *National Inteligencer* from Professor Morse, explains the discovery, by Mr. Hill, of a method to produce photographs naturally colored, and defends him from the imputation cast upon him on account of partial failure in the results. He says that the invention is still incomplete. Some colors can be transferred exactly, while others are only imperfectly obtained. Mr. Hill is engaged in further experiments.

House's Printing Telegraph between New-York and Boston.

THE line between New-York and Boston, which was sold last year "for scarcely enough to pay its debts," and of which the present capital is far less than its original cost, has improved greatly in its management during that period, under the superintendency of Mr. McKinney, and no line more wanted improvement. It now has better title to its motto: "Prompt, accurate, and reliable."

It is said to be doing a good business; but when it is stated that it declares a "dividend of seven per cent. on the last half-year's business," it should be added that that dividend is calculated on the present reduced capital, being probably not more than one third or one half of the original capital or cost. Still, it is doing well, even with this explanation; and the worthy Superintendent has our hearty good wishes for still more abundant crops of dollars and reputation.

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THE *Sunday Times* has the following question and answer:—"Is there any published philosophical work which recognizes electricity and the human will as synonymous agents, and which asserts their omnipotence in the government of the universe?"....We do not know that there is any philosophical work which treats of electricity and the human will as being precisely synonymous; but nearly all the modern theories in regard to mesmerism, animal magnetism, and all the alleged spiritual phenomena, claim a connection, more or less, between them. In Reichenbach's Dynamics, a work recently published by Redfield, the author claims to have established the existence of what he calls the "odic fluid," which governs the operations of the will. This work contains some very curious and interesting experiments, and will answer your purpose more satisfactorily than any other of which we have any knowledge."

AMONG the patents lately granted is one for a "magnetic machine for washing and separating Gold." The inventor, Samuel Gardiner, of New-York, says:—"I do not claim to have invented a rotary cylinder of magnets, for the purpose of separating magnetic particles from gold or metals; but I claim separating gold or other metals from earthy and magnetic particles, by means of a rotary cylinder of magnets, which magnets, at the same time as they collect the magnetic particles, serve as agitators for agitating the water and the metal and earthy and other foreign matter which is mixed, for the purpose of washing away the said earthy and other foreign matter; the said cylinder of magnets being constructed and arranged in relation to the trough containing aforesaid mixture in any way."

Atlantic and Pacific Telegraph.

MOVEMENTS are in progress for an efficient prosecution of this great project, to be completed at an early day after the Government renders the route secure against Indian depredations. Particulars in our next.

ELECTRICAL EEL.—We saw yesterday, at the office of James Bishop & Co., three specimens of the Gymnotus, or Surinam eel, more commonly known as the electrical eel. After several unsuccessful attempts, Capt. Brown, of the bark Republic, from Para, South America, which arrived on Sunday last, succeeded in importing these creatures in a hogshead filled with mud and water from the Amazon, in which river they were captured. They were taken by the natives, in baskets. The largest is four feet long, and as thick as a man's arm. Upon an iron rod (held in the hand) being applied to the electric organs of the fish, a shock is communicated, proportioned in strength to the degree to which they are irritated. In securing their food, fish are paralyzed by the shock, and fall a prey.—*Journal of Commerce.*

MR. PERRY, the telegraph operator at Meriden who was run over by the Hartford and New-Haven cars, had insured his life for $1000 for the benefit of his mother, just a year previous to Saturday. The accident occurred at 3 1-2 o'clock in the afternoon, and it is contended on the part of the Insurance Company that the policy expired, *by usage*, at 12 o'clock noon. His friends claim that his policy held good until 12 at night.

CONVERSATIONAL TELEGRAPH.—The telegraph lines from New-Haven to Waterbury and Fair Haven are managed on a much more liberal principle than that of the system of charging for every ten words, as we learn from the New-Haven *Journal and Courier.* The whole line is let by the hour or minute, at the rate of ten cents for five minutes and one cent for each subsequent minute; and you may have as much talk for your money as you can crowd into the time, while for twenty-five cents a person is allowed to write as much as he pleases! This reminds one of the old days of "accommodation" stages, when obliging drivers were expected to stop to allow ladies who were travelling in search of country-seats time to examine the houses to let along the road.—*Boston Daily Adv.*

REMOVAL.
NORTON'S TELEGRAPHIC ROOMS.

THE Subscriber has removed his room from 177 to 179 Broadway, (up stairs,) the first door above his late location.

J. W. NORTON.

New-York, June, 1853.

NATIONAL TELEGRAPH.

NEW-YORK, ST. LOUIS, AND NEW-ORLEANS.
OFFICE, No. 2 WALL ST., NEW-YORK.

THE connection of these important cities has recently been rendered complete by business arrangements of a lasting character, by which extensive interests are blended, and the process of transmission rendered more rapid and direct.

The revenues of the duplex lines from Pittsburg to St. Louis have for some time been devoted to their reconstruction and improvement. Messages are now sent direct to Louisville and St. Louis, and at pleasure to New-Orleans, save during storms.

Having two routes to New-Orleans, three to St. Louis, three wires connecting the Ohio river cities and interior, with extensive auxiliary lines to the Lakes, and interior of Western States, the public will find them suited to a correct, prompt, and extensive transmission.

These lines are termed "*National*," not to disparage former names, but to unite hitherto contending interests under a generic title, known to friends, and justified by their extent. They embrace 10,000 miles of wire, numerous offices, and an increasing business.

The energy which built them will be attempted in their management.

JAMES D. REID, Superintendent.

Jan. 1y.

White Flint Insulators for Telegraph Wires.

THE Subscribers would respectfully call the attention of those interested in the construction and in the repairing of Telegraph Lines, to a new and superior article for the insulation of Telegraph wires. It is manufactured in Bennington, Vt., and excels in point of *strength*, of *economy*, and *insulating properties*.

Its composition is flint, quartz and feldspar, principally flint. It is compact, thoroughly vitrefied, and the body throughout, like glass, *wholly impervious to water*. Its insulating properties equal those of the purest flint glass; and in point of strength, it is many times superior. Any required thickness may be given, and no iron covering is necessary to protect from breakage by missiles. It can be furnished at prices so moderate, that, in point of economy, we believe it unrivalled. It may be fastened to wooden or iron pins in any of the usual modes, and can be furnished either connected with the pins or detached.

Severest tests from practical and experienced Telegraphers are respectfully solicited.

All orders must be addressed to the subscribers at 77 State street, Boston. Specimens of different patterns may be seen at "Norton's Telegraph Rooms, 179 Broadway, New-York."

The largest orders for any variety of patterns can be filled at three weeks' notice.

ELLIOTT & CO., Sole Proprietors,

77 State street, Boston; and 2 Paradise street, Liverpool, Eng.

POSTSCRIPT.

New Arrangements.

THIS sixth Number of the American Telegraph Magazine has been delayed for some time after nearly all the contents were printed, in order to announce some new arrangements which were contemplated. Those arrangements are now so far completed, as to enable us to announce that, after this issue, "Shaffner's Telegraph Companion" (of which two Numbers were published at Louisville) will be merged in the "American Telegraph Magazine;" and that Mr. Shaffner will be associated with us in the future Editorship of this publication. Mr. Shaffner is known as an efficient constructor and officer of some western lines; and his efforts will be combined with ours to render the American Telegraph Magazine worthy of the good opinion which has been extended towards it by most of the prominent Telegraphers in the United States and British America.

☞The publication of "Shaffner's Compound Tariff Scale," showing the rates of Telegraphing between any and all points throughout the United States and British America, will be continued under this new arrangement, as a part of the Telegraph Magazine—and the greatest care will be taken to render it fully reliable in all respects, as it has heretofore been, for reference in Telegraph offices and among business-men generally. Its value is self-evident.

Further reference to the new arrangements will be made in our next—which will appear at the close of August—after which, the issues will be more prompt than some of them have hitherto appeared, in consequence of the interference of other important duties.

DONALD MANN, *Ed. Am. Tel. Mag.*

American Telegraph Magazine.

☞Terms, *Two Dollars* a year, invariably in advance.

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It is particularly requested, that all addressing orders to me would write in a plain hand the name in full of the Town or Post-Office, County and State, to which they wish their answers forwarded.

Subscribers are authorized and requested to send bank notes or change by mail, at my risk, provided it is done in the presence of the Postmaster, and the letters are franked.

☞Post-Office Stamps taken at their value. These are the most convenient to send, and there is no discount upon them.

NORTON'S TELEGRAPHIC ROOMS,

179 Broadway, New-York.

The attention of Telegraph companies throughout the United States and British Provinces, is respectfully invited to my stock of magnetic and chemical Telegraph apparatus, which will be found extensive and complete.

My facilities for manufacturing and forwarding with promptness and dispatch, whatever may be required to supply the wants in the offices or on the lines, are unequalled by any establishment in the country. The most careful attention will be given to the quality of my goods, being convinced that a reputation for good articles is the most enduring, and in the end most profitable: at the same time I shall aim to keep constantly on hand, not only every article required in the business, but also every variety of such articles.

My arrangements, both abroad and at home, are such that I think I can offer English and American wire upon as reasonable terms as it can be found in the market.

Register Paper, Porous Cups, Platina, Nitric and Sulphuric Acid, Battery Tumblers, Insulators of every description, Gutta Percha-covered office and river Wire, silk and cotton-covered Wire, and every article connected with the business, not manufactured by me, will be sold at manufacturer's prices. I am also prepared to furnish to order Communication Headings, Record Books, and Envelopes, printed in the neatest and most economical manner.

Morse Registers, $30, $35, and $40.			
Relay Magnets, $10, $12½, and $15.			
Key, $5; Key with circuit closer, $6.			
Bulkley's Protector from Lightning,			$3 50.
Carey's	do.	do.	$7 00.

A new article of office wire, much superior, (and containing in a pound double the length of Gutta Percha office wire,) $1 per pound.

I have recently added to my manufactory an electro-plating and gilding department, and am prepared to give the highest style of finish and ornament to the instruments furnished. I am also prepared to carry out any original design, alteration or improvement in the construction of instruments, &c., which may be suggested by the taste of the purchaser.

Every person connected with the Telegraph is desirous of seeing it improved, and every inducement thereto will be held out by me to the ingenious operator and mechanic. It is my intention to add to my stock every valuable improvement, (as soon as the necessary arrangements can be made,) and any person that may have made, or at any future time constructs, any instrument that can materially benefit the working of the Telegraph, is solicited to address me (post-paid.)

Those companies that have heretofore employed agents to make their purchases in this city, will be enabled to save that expense by sending their orders direct to me; as it is my intention to keep constantly on sale, at the lowest prices for cash, every article used in the construction and working of a line of Telegraph.

Goods can be forwarded to any town in the United States and British Provinces, (provided said town has connection by express with New-York,) and the money collected on their delivery. Persons will do well, when in places that have no such connection, to have what they order forwarded to the nearest express town.

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UNITED STATES-SUPREME COURT.

HENRY O'RIELLY AND OTHERS, APPELLANTS,
versus
SAMUEL F. B. MORSE, ALFRED VAIL, AND FRANCIS O. J. SMITH, APPELLEES.

IN EQUITY.

APPEAL FROM THE U. S. CIRCUIT COURT
FOR THE
DISTRICT OF KENTUCKY.

ABSTRACT OF CASE,

AND

POINTS BY APPELLANTS.

R. H. GILLET,
Of Counsel for Appellants.

ST. GEORGE T. CAMPBELL & AMOS KENDALL,
For Respondents.

FEBRUARY, 1852.

NEW YORK:
BAKER, GODWIN & CO., PRINTERS, TRIBUNE BUILDINGS.
1852.

Supreme Court of the United States.

HENRY O'RIELLY AND OTHERS,
vs.
SAMUEL F. B. MORSE AND OTHERS.

Telegraphs

MORSE and others filed a Bill, August 1848, in the Kentucky Circuit, for an injunction to prohibit O'Rielly and others using a telegraphic invention in that State, known as the Columbian Telegraph, and for relief; and preliminary injunction was granted, August 14, 1848. Record, p. 1 and 2.

By it, the defendants were forbid to use the "Columbian Telegraph, or any other telegraph worked by the motive power of electro-magnetism, and consisting of combined circuits of electricity, connected by the receiver or mutator, and the register worked by electro-magnetism, in whole or in part, or in any combination whatever, in violation," &c. Record, p. 20.

The Bill stated the grant of two patents, the surrender and reissues on account of failure in specification, (p. 4,) and that the patent of 1840 had been twice surrendered, and reissues granted for the same cause. Appropriation by Congress, p. 7.

The defendant O'Rielly set up the following defences in his answer under oath, p. 14.

First, Morse was not the inventor of the use of the motive power of electro-magnetism for marking intelligible characters, but that Dr. Steinheil used it in 1837. Record, p. 21–2.

Second, That Morse was not the inventor of the combined circuits, but they were used and patented by Davy. Record, 22.

Third, Patent of 1840 invalid. 1, Because Morse patents a principle; 2, Because he patents a system of signs; 3, Because he was not the original and first inventor of several substantial and material parts of the thing patented; 4, Because the thing patented is not sufficiently described; 5, Because the invention will not produce the effect described; 6, Because the specification originally filed, was altered and enlarged by adding things unknown to him when he filed the same, and which he did not invent, but which were invented by Davy. Record, 23, 24.

Fourth, That the patent of 1846 is invalid, because—1, The thing patented was before known and patented; 2, That the patent don't distinguish between new and old; 3, That the first claim had been previously patented by Morse; 4, That Morse was not the first inventor of it; 5. That the thing patented was in public use before the application for a patent, with his consent and allowance, and on sale, and that he sold two machines; and 6, That the description is insufficient.

Fifth, He alleges that Morse has unreasonably delayed to enter a disclaimer of the portions not invented by him. Record, p. 25, 26.

Sixth, He denies using the motive power of electro-magnetism, in the manner, or upon the principle patented by Morse, and denies all infringement. Defendants use electricity merely to change polarity of an armature. Record, p. 26.

Seventh, He sets up complainant's delay, in waiting until after the line was mostly completed before applying for an injunction. Record, 26–27.

Eighth, He denies using any of Morse's inventions. Record, p. 27.

REPLICATIONS FILED—RECORD, p. 29. ORDER, Nov. 1848, directing the Marshall to take line into custody, and cut the wires. Record, p. 30.

AMENDED ANSWER OF O'RIELLY SETS UP—

Ninth, That the issue, and surrender and reissues of the patent of 1840, were illegal, for the following causes:

1, Because before he filed his specification and drawings for his patent of 1840, a patent for the same invention in France, to wit in 1838; that he did not disclose this fact to the Commisioner; and that he hereby obtained a patent running fourteen years from 1840, when it should have been from 1838, the date of the French patent. Record, p. 34.

2. Denies that Morse was the first inventor or discoverer of the things included in the first and eighth claim of his patent of 1840; but that Dr. Jackson was the inventor, and communicated the ideas to Morse. Record, p. 35.

3. Denies that Morse was the inventor of the use of a combination of dots and lines, but that Dr. Swaim published such a combination in 1829. Record, p. 35.

☞ ORDER TO RESTORE LINE TO DEFENDANTS, Aug. 11, 1849, nine months after Marshal was ordered to take possession of it and cut wires. Record, p. 35.

Order to try issues by jury REFUSED. Record, p. 38, 41.

List of papers and affidavits read on the hearing. Record, p. 38–39–40.

Tenth, On the hearing, the defendants objected to the reading of a letter from S. F. B. Morse to Dr. Jackson, of Boston, dated Dec. 7, 1837, and an article signed by Morse, in the Boston Evening Post, but the court permitted their being read. Record, p. 40.

Eleventh, Defendant asked to have answers to certain interrogatories excluded, as being answers to leading questions; but the court refused to exclude them. Record, p. 41.

DECREE 12 Nov. 1849—Record, p. 42. 1. That patent of 1840 is valid; that defendants infringe, and the former injunction be continued. p. 42.

2. That it is limited to the 14 years from the date of his French patent, and that the injunction run only for that time. The injunction extends to the use of the Columbian telegraph, and to any which uses the combined circuits of electricity worked by the motive power of electro-magnetism, on the plan or principle of Morse; and these shall not be used to *record* or *produce sounds.* p. 43.

3. That Morse was the first and original inventor of the things described in his patent of 1846; and that the defendants infringed, by using the mutator and receiving magnet.

4. Also that the defendants used Morse's pen lever, and pen point with the groved roller, to make indentations, and thereby infringed; and the defendants were conjoined as to this patent for 14 years from April 11, 1846.

October 6, 1837, Morse filed a caveat for a telegraph, important portions of which are *unlike* his patent of 1840. p. 48.

Patent of 1840, p. 52. Nine claims 63, 64. First reissue p. 64, four claims. Second reissue eight claims, p. 74.

Patent of 1846, p. 69. Reissue p. 80.

On the 27th of August, 1837, Morse wrote Commissioner of Patents, about a caveat, and said, "It is nearly five years (within a few weeks) since I not only conceived the idea of such a telegraph, but proceeded to put it *partially* into execution." p. 97.

On the 15th of May, 1838, he writes about not furnishing duplicate drawings, and adds, "May I ask the favor of you to delay issuing the letters patent until you hear from me in Europe. p. 97.

On the 2d May, 1840, he again writes him, and refers to the absence of the duplicate drawing, and says, "I have nearly completed an improved apparatus, for which I intend to take out a patent, adding it to my patent already executed, as an improvement." He then speaks of Wheatstone's telegraph in England; and that Steinheil's was sustained by the Bavarian government. p. 98.

On the 18th of May, 1840, he returned his specification and drawings, and says he will specify the improvements, as soon as he can complete the new apparatus. p. 99.

On the 29th May, 1840, he again returns his specifications with corrections. p. 100

By a letter dated 26th May, 1840, it appears that Morse's oath to the application was defective, and alterations in the specifications were suggested. p. 101.

FIRST, *On the 18th of August, 1838, Morse took a* PATENT *for his invention from the* FRENCH GOVERNMENT. p. 102 to 117.

The use of the Columbian instrument on the People's line by O'Rielly and others, is both proved and admitted.

SECOND, *The Columbian instrument is a different invention from Morse's.*

This is stated in the answer, and is proved by the following witnesses.

1. The defendants do not use the invention of Morse.

E. F. Barnes, p. 362.
J. C. Cressen, p. 391.
N. B. Chamberlin, p. 405.
C. B. Moss, p, 469—471.
S. K. Zook, p. 375.
C. T. Jackson, p. 401.
C. T. Durant, p. 337.
A. Stager, p. 472.
C. S. Smith, p. 381.
G. W. Benedict, p. 403—5.
R. Peter, p. 442.
R. T. P. Allen, p. 477—8.

The following witnesses, called by complainant, state that the Columbian differs from Morse's invention.

"The instrument of Barnes and Zook, differs from that of Morse in construction, and in some of the details of operation." Dr. Page, p. 188.

"The registering instruments differ in these respects, that where Morse uses the motion of the armature of an electro-magnet to imprint the signal, Barnes & Zook, use the motion of the electro-magnet itself for this purpose, substituting for the armature, the steel or permanent magnet; and where Morse uses a spring to effect one motion of his armature, Barnes & Zook use another steel magnet, and change the poles of the electro-magnet by changing the direction of the galvanic current." Id.

B. Pike, Jr., speaks of differences, p. 206.

A. Prosh, says, "the distinguishing difference is its general mechanical structure," &c., p. 223.

J. Stokel, at p. 228, speaks of a difference.

C. T. Chester, at p. 245, speaks of differences.

John Torry, at p. 289, says, "It will at once be perceptible from the descriptions and drawings of the two instruments, that there is a difference in the arrangement and mechanical structure of Barnes & Zook's instrument."

P. S. Fall, at p. 355, speaks of a difference.

J. R. Chilton, at p. 435, states important differences.

The complainants' witnesses have testified under the belief that Morse had patented the exclusive right to use the motive power of the electro-magnetism to record telegraphic characters; and it is the use of this power which they refer to, when they say that the Columbian instrument involved the same essential principle.

Dr. Page, says, "It is a principle in patent law, that when an inventor has discovered the means of producing an entirely new result, and shows a successful and practicable mode of producing that result, *he may claim the result, however produced*, and claim also his own special mode." Morse "has limited his claim to *the production of that result by means of the electro-magnetic power however employed*," p. 127.

"The patent of said Morse is also for means of recording, the same consisting of the electro-magnet and machinery set in motion by it. While the said patent gives to said Morse the broad ground of *the right to use electro-magnetic power or motion* for recording signals at a distance, it also secures to him the right to *use the electro-magnet in* such connection, and the machinery actuated by it, for this purpose," p. 128.

Speaking of the patent of 1846, he says, "another principle, or *gengral feature* is secured, as well as special matter. The invention therein specified as a *receiving magnet* is an *electro-magnet*, used as an intermediate agent, or auxiliary to that magnet which performs the recording," p. 128.

"New forms of electro-magnets might be invented, but no *species of electro-motion* could be used in such a connection, for such a purpose without liability to said Morse as patentee," p. 129.

L. D. Gale, p. 179, "Do Barnes & Zook, in the operation of their instrument, use *one current of electric fluid*, one circuit battery or magnet? If *they do, the identity of principle* must be admitted."

"The two instruments resemble each other in this; both are *moved by the electro-magnet*, and in the same way. The *electro-magnet being the prime mover*, and indispensable, and the *only indispensable part* of the instrument," p. 180.

"But where an individual opens a new field of enquiry and investigation, and shows by adequate means (the apparatus used), the subjection of any of the principles or powers of nature not hitherto subjected to such purposes, and thus obtains a result, it has been the practice of the office to give him who opens the field, the benefit of the first harvest by grant of letters patent, covering the ground by such means as he had used to obtain the result, or by *any other means.*

In the patent granted to Professor Morse, on the 20th of June, 1840, I consider the *essence* of invention to be mainly embraced in the 6th claim. Parts of the same are further detailed in claims 7 and 8. In the reissue of the patent of 1840, dated January 15, 1846, the spirit of the invention is embraced in the first claim. For the 2d reissue; 13th June, 1846, it is contained in the *first* and *last* claims," p. 122. These two claims are for the use of the motive power of electro-magnetism, however developed, for marking, &c., p. 78–79.

Gale, at page 122, says: "Morse's patent, inasmuch as he was the first to introduce machinery of any kind to mark or print prominent signals of whatever kind, at distances for telegraphic purposes, I consider *entitle* him to the use of electricity, or magnetism (both being considered by scientific men as of common origin), as a *motive power* for telegraphic recording of signals, and to all machinery he has invented and described, and to his telegraphic alphabet."

J. Renwick, at page 430 says: "I have not stated that they are identical, but have pointed out certain points of similarity and certain differences; the main points of similarity are: first, *the power employed* in the two instruments is the same, namely, *magnetism* developed in bars of soft iron by an electrical current; and second, in the character of the signals."

J. R. Chilton, at page 435 says: "If Mr. Morse is entitled to the exclusive right of using electro-magnetism for imprinting marks or signs of ideas at a distance, then any instrument in which electro-magnetism is employed, as it is in the Columbian for that purpose, whether for better or worse, must be identical in principle with his; but if his is not entitled to that exclusive right, and by the arrangement of the Columbian Telegraph an instrument is obtained which can be worked in electrical states of the atmosphere when his cannot be worked (of which fact, however, I am unaware), then I should say the combination was a distinct instrument from his. I have already said in my former deposition, that its mechanical arrangement was different."

All the other witnesses of the complainant, who speak upon the question of identity of the instruments, refer to the use of electro-magnetism to prove their positions, while their description of them proves that in all respects they are unlike. See testimony of Barnes, page 360—Benedict 401—Renwick 428—Chilton 433.

Fourth, Morse was not the first inventor of the things which constitute the invention used by the defendants, or either of them, nor their combination.

1. *The battery*. This was not invented by Morse—Henry p. 417. Moss 466.

2. *Metallic conductors.* Steinhiel used these before Morse's invention; and he was advised to adopt them. Moss 466. Henry, 423.

3. *The ground circuit.* This was used by Steinhiel before Morse. Moss 467. Henry 422.

4. *The local circuit.* This was in use by Wheatstone early in April 1837, and seen by Professor Henry. p. 422.

In January 20, 1838, the London Mechanics' Magazine contained an account of this, and that Davy had invented and used the same thing; and it was included in Davy's patent of July 4, 1838, which is several years before Morse applied for a patent for it. Moss 467. Barnes 366.

5. *A finger key.* This was known and used by Ampere in 1820, and described in the Edinburgh Journal of Science, vol. 4, p. 173. Moss, 468. Morse, in his patent, has type and portrule and mercury cups, &c., instead of a finger key. A finger key, or something whereby a circuit could be opened and closed, must have been known as long as circuits have been used.

6. *Ribbon paper.* This was used by Steinhiel. Moss, 468—9.

7. *Clockwork*—Was known centuries ago. Steinhiel used in 1837 for moving paper to be marked. Moss, 469.

8. *The alphabet.* Steinhiel had an alphabet in 1837. Moss, 469. Swaim had an alphabet like Morse's, invented in 1829.

9. *Morse did not invent the combination which constitutes the Columbian.* There is no witness who swears the combination to be the same. All agree they do not contain the same things.

10. *Permanent magnets.* These were not invented by Morse, but were known and used in ancient times. Barnes, 363. This is a portion of the common knowledge of educated men. They are made of hardened steel by the application of the loadstone, or other permanent magnets, in a particular manner. See Dictionaries, title magnet.

The use of permanent magnets would be fatal to the operation of Morse's telegraph. *Benedict*, 404.

Fifth. Permanent magnets are not affected by atmospheric causes like the electro-magnet. Barnes, p. 365. "The application of the permanent magnet to the mutator of the Columbian is of very great benefit. I do not hesitate to say, that with this mutator during the summer months, when there is so great a prevalence of atmospheric electricity, a line of telegraphs can be operated at an average of two hours per day, when communication would be entirely interrupted on a line where Morse's receiving magnet was used. That this is so in fact I personally know. During a period of about one month, from the 14th or 15th of September, 1848, to about the 16th of October, of the same year, I conducted the correspondence from the Louisville office for the "People's line," and during that period of time numerous thunderstorms were experienced, which entirely interrupted the operations of some, and often all of the four lines of telegraphic communication branching out from the city of Louisville, one of which is built along the same road of the People's Telegraph to Nashville, and which was more frequently interrupted than any other; and during that whole time, the People's line, which was operated by means of the Columbian, was not interrupted in a single instance by demonstrations of atmospheric electricity. The reason of this may be found in the fact that however much the equilibrium of magnetism may be disturbed by atmospheric electricity traversing the wire, the power of the permanent magnet is instantly employed to restore the equilibrium."

Zook, p. 376. "The comparative uselessness of Professor Morse's Electro-magnetic Telegraph (from the day when his receiving magnet weighed several hundred pounds to the present) during the demonstrations of atmospheric electricity, has been a very serious detriment to the practical operations of his instrument. To my knowledge, Professor Morse was aware of this detriment, and in the summer of 1847 attempted to remedy it, and failed to do so; one of the ends gained by the Columbian Telegraph, is the remedy of this difficulty."

That it is less liable to derangements is not disputed by Morse's witnesses, and is confirmed by the following. *Smith*, p. 381—Chamberlin, p. 407. *Peter*, p. 442.—C. B. Moss, 469, et seq. Allen, p. 477—Cresson, p. 391.

Sixth, The electro-magnet is a totally different thing from permanent magnets.

C. F. Durant, p. 437. "Permanent magnetism and electro-magnetism are totally distinct things in their nature and operation."

Walter, p. 307. "The permanent magnet, called the steel magnet, is made magnetic, when the process of induction is applied." "The electro-magnet is made, or magnetized by placing a piece of soft iron within a helix composed of insulated copper-wire, which wire is connected to the poles of a common galvanic battery and the bat'ery set in motion." Benedict, p. 404—p. 405—Chamberlin, p. 406—7.

Morse in his caveat says: "An electro-magnet made in any of the usual modes of forming it, such as winding insulated copper-wire." &c. p. 50.

He claims, patent 1840, p. 63. 5th, "The application of electro-magnets by means of one or more circuits of metallic conductors from any known generator of electricity or galvanism," &c.

Morse, in the first reissue of his patent of 1840, p. 68, says: "I wish it to be understood that I do not claim the use of the galvanic current, or currents of electricity for the purpose of telegraphic communication; but what I specially claim as my invention and improvement, is the making use of the motive power of magnetism, when developed by the action of such current or currents, as a means."

Morse, in the second reissue of the patent of 1840, at p. 75, says: "My apparatus for this purpose consists of two principal parts. The first part consists of a galvanic battery, or known generator of galvanism, or electricity; a galvanic, or electric circuit, composed of any known conductors of electricity; a port rule," &c., "all in combination with an *electro-magnet*, or device by which the motive power of the electric or galvanic current, *which I call electro-magnetism*, may be developed," &c.

At page 78—"The motive power of magnetism when *developed by the action of such current*, or currents, substantially as set forth," &c.

These extracts show that Morse contemplated the use of electro-magnets whose efficiency and power were derived solely from the galvanic current by the use of the usual battery, and not a permanent magnet.

Seventh, Morse did not invent the electro-magnet. It was known and used before his discovery by Henry, Wheatstone, Davy, Steinhiel. Henry, p. 422—426. Moss 467—8.

Eighth, The permanent magnets in the Columbian are applied to a different purpose than Morse's electro-magnets. Smith, p. 383. *Barnes*, 636. *Zook*, 376. *Cresson*, 391. *Benedict*, 405.

NINTH.—*The true date of Morse's application for his first patent is after May 29th*, 1840,

On the 15th of May, 1838, Morse requested that a patent should not issue on his application. p. 98.

May 2, 1840, he wrote Commissioner that there was something to be done to perfect his papers. p. 98.

May 14, 1840, the Commissioner writes him, pointing out things to be attended to, before a patent could issue. p. 101.

On the 18th, Morse had his papers in his possession in New York to perfect them. p. 99.

May 26th, the Commissioner again returns them to Morse to perfect and to be properly sworn to; the want of an oath might affect the validity of his patent. p. 101.

On the 29th, Morse again had his papers in hand to correct them. p. 99.

TENTH.—*Morse was not the first and original inventor of the local circuit.*

Professor Henry, p. 422, testifies that Wheatstone showed him, in April, 1847, in London, his method of bringing into action a second galvanic circuit.

"This consisted in closing the second circuit by the deflection of a needle so placed that, the two ends projecting upwards, the open circuit would be united by the contact of the end of the needle when deflected, and on opening or breaking the circuit so closed by opening the first circuit, and thus interrupting the current, when the needle would assume its ordinary position under the influence of the magnetism of the earth. I informed him that I had devised another method of producing effects somewhat similar. This consisted in opening the circuit of my large quantity-magnet at Princeton, when loaded with many hundred pounds weight, by attracting upward a small piece of moveable wire, with a small intensity-magnet connected with a long wire circuit. * * * The object of Professor Wheatstone, as I understood it, in bringing into action a second circuit, was to provide a remedy for the diminution of the force of a long circuit. My object, in the process described by me, was to bring into operation a large quantity-magnet, connected with a quantity battery in a local circuit, by means of a small intensity-magnet, and an intensity-battery at a distance."

Morse, by his silence, acquiesced in Gale's statement in 1848, that he did not know how to produce effects at a distance, until Gale referred him to Henry's papers on the subject, and that after that he succeeded. Henry, p. 426.

"Combined" circuits invented by Henry, and included in Davy's patent of July 4, 1838. Barnes, p. 366; Moss, p. 467.

ELEVENTH.—*The local circuit patented and described in a printed publication before Morse's application for his patent of* 1846.

Barnes, p. 366, says it was patented in 1838 by Davy. *Moss*, p. 467, states that a description was published in the London Mechanics' Magazine, Vol. 28, No. 754, January 20, 1838 where both Wheatstone's and Davy's plans are spoken of. Davy's is there described as found in his patent. Among other things, in his patent Davy states—"Now by my invention, I so arrange the metallic circuits that at the requisite intervals the apparatus itself will bring into action a succession of wires having their own batteries, which I call renewers." He then describes the process, which is the same, in substance, as that described in Morse's patent of 1846.

TWELFTH.—*Morse's second re-issue of the patent of* 1840, *contains more than the invention patented in* 1840, *and things that were in that patent dedicated to public use.*

In his first claim on the 2d re-issue, (p. 78,) Morse says—"What I specially claim as my invention and improvement, is making use of the motive power of magnetism, when developed by the action of such current, &c., to give motion to machinery."

There is no such claim in the original. There, it is confined to the use of electro-magnets. Claims 6 and 8, p. 63.

In the eighth, (p. 79,) he says—"I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specification and claims, the essence of my invention being the use of the motive power of the electric, or galvanic current, which I call electro-magnetism, however developed for marking," &c.

No such claim as this is found in the original patent.

On the same page, are the 5th and 6th claims—"*Fifth.* I claim as my invention the system of signs, consisting of dots and spaces, and dots, spaces, and horizontal lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes. *Sixth.* I also claim as my invention the system of signs, consisting of dots and spaces, and horizontal lines, substantially as herein set forth and illustrated, in combination with machinery, for recording them as signals for telegraphic purposes."

The original contains no claim like the fifth, and the only one resembling the sixth, is in the ninth, (p. 64,) where the combination is very different, being for the combination of the mechanism and system of type and signs, with the dictionary described.

The things included in the first, fifth, sixth, and eighth claims, were each and all of them described in the original patent of 1840, as in the last reissue, and not having been claimed in such original, the defendants allege that it is conclusive evidence of abandonment, or dedication to public use.

In Morse's patent of April 11, 1846, he described and claimed the following, p. 73.

"I claim as my invention, the use of a local battery and magnet, in combination with a battery and magnet, connected with the main line or lines of conductors, for the purpose above specified."

This, by not being claimed in the reissue, is abandoned to public use, and covers all that the defendants are charged with using.

THIRTEENTH.—*Material parts of the patent of* 1840, *were known and used prior to Morse's invention.*

1. The motive power of electro-magnetism was used by Steinhiel, in 1837, to record, before it was used or applied by Morse. Moss, p. 466, 467; Barnes, p. 371.

Also by Wheatstone in the early part of April, 1837; Henry, 422. It was also known and used by Weber, also Gould p. 411, 412.

2. The combination of two or more circuits was known and used.

Davy & Wheatstone, knew and used them. Moss, p. 467.

Wheatstone & Henry, knew and used them. Henry, p. 422; Barnes, p. 371.

3. A system of signs composed of dots, lines, and spaces, was known and used before. Steinheil used it. Moss, p. 469. Swaim, also.

FOURTEENTH.—*Material parts of the patent of* 1846, *were known and used before their invention by Morse.*

The thing patented by Morse in his first claim in this patent, was previously known and used by Henry, Davy, and Wheatstone; Henry, p. 422; Moss, p. 466, 467; Barnes, 371.

A material part of it *had been previously patented* and described in a printed publication.

This first claim is the same as the fourth in the patent of 1840. It is these words, p. 87, "A device or contrivance called the receiving magnet, in combination with a short, local, independent circuit, or circuits, each having a register and register-magnet, or other magnetic contrivances for registering, and sustaining such a relation to the register-magnet and other magnetic contrivances for registering, and to the length of the circuit of telegraphic line, as will enable me to obtain with the aid of a main galvanic battery and circuit, and the intervention of a local battery and a local circuit, such motion or power for registering, as could not be obtained otherwise, without the use of a much larger galvanic battery, if at all."

In the patent of 1840, it is thus described, p. 79: "Fourth, I claim as my invention, the combination of two or more galvanic, or electric circuits, with independent batteries, substantially by means herein described, for the purpose of obviating the diminished force of electro-magnetism in long circuits, and enabling me to command sufficient power to put in motion registering, or recording machinery at a distance."

The description in the specifications fully sustain this position. See p. 84, and p. 78.

FIFTEENTH.—*Morse changed his patents by surrender and reissue, so as to include the Columbian, after it was in use on the People's Line.*

Shaffner, (p. 151) swears that the Columbian was put on the line about the 6th of March, 1848. *Foss*, Morse's agent (p. 131,) frequently saw them in use. *McAfee* (p. 312,) attests to the same thing. The reissued patents upon which this suit is instituted bear date, June 13th, 1848, (p. 74, p. 80,) which is some months after complainant's agents saw the Columbian, and knew that it was constructed and used.

The broad claim of the use of electro-magnetism as a motive power for marking, was first included in this reissue, as appears by the patents themselves.

SIXTEENTH.—*The reissued patent of* 1846, *granted in June*, 1848, *contains things not claimed in the original.*

1. In the original (p. 73), he claims "the receiving magnet or a magnet having a similar character," sustaining an undefined relation.

In the reissue he claims (p. 87) "the employment, in a main telegraphic circuit, of a device or contrivance, called the receiving magnet, in combination with a short, independent local circuit or circuits, each having a register or a register-magnet, or other magnetic contrivances for registering," sustaining an undefined relation.

2. In the original (p. 73) he claimed, "the combination of the points affixed in the pen lever with the grooved roller (N), for marking on paper as above described." In the reissue, this claim is enlarged by including the pen lever or its equivalent, and substituting indentation for coloring matter for marking, &c., (p. 87), as follows:

"3. I also claim as my invention, the combination of the point or points of the pen and *pen lever or its equivalent*, with the groved roller, or *other equivalent* device, over which the paper, or other material suitable for marking upon, may be made to pass for the purpose of receiving the impression of the characters, by which means I am enabled to mark, or print signs or signals upon paper, or other fabric, by indentation; thus dispensing with the use of coloring matter for marking as specified in my letters patent of January 15, 1846."

SEVENTEENTH.—*In neither of his patents does Morse sufficiently distinguish what is new from what is old.*

Except in his historical account of telegraphs and what is included in his claims, his patents throw no light on this subject. In these he claims what he did not invent.

EIGHTEENTH.—The reissued patents show, when compared with those surrendered, that the object was not to amend a defective specification, but to obtain new patents without reference to what was claimed in the old ones.

DEFENDANT'S POINTS.

First.—*Morse's patent of* 1840 *is void; because it runs fourteen years from the date of its issue, instead of that length of time from the date of his French patent.*

The seventh section of the patent act of 1836, *prohibits* granting a patent where one has been previously granted for the same thing.

The 8th section modifies this in favor of the true inventor, if within six months after his taking foreign letters he files here his specifications and drawings.

The 6th section of the act of 1839 suspends so much of the 7th section of the act of 1836 as relates to patents obtained abroad; *Provided,* "that in *all* cases, every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters patent.'

The object of this section was to limit patents to fourteen years from the time the inventor patents the same thing here or abroad. Under the act of 1836 it could not run over fourteen years from the time of patenting here, which must be within six months from the date of the foreign patent. The public would in all cases have the right to use the invention, after fourteen years and six months. Under the construction claimed by the complainants, Morse would be entitled to fourteen years here, though he had had it fourteen abroad, and it had become public property then. This would place this country fourteen years further from the right to use an invention than foreign nations.

The question is, upon the true meaning of the words, "every such patent," which clearly refer to a patent here, when there has been one issued abroad for the same invention. There are no exceptions in favor of cases pending in the patent office when the act of 1839 passed. But they were equally with others within the mischief intended to be corrected, and the act must therefore apply.

Second.—*In construing a patent, and deciding what are the inventions patented thereby, the summing up is conclusive. Nothing is patented but what is expressly claimed, in the summing up, as the invention.*

Moody vs. *Fishe* (2 Mason 112., p. 118), Story J. says, "It appears to me clear, both upon principle and authority, that where a patentee in his specification states and sums up the particulars of his invention, and his patent covers them, he is confined to such summary; and he cannot afterwards be permitted to sustain his patent by showing, some part which he claims in his summing up as his invention, though not in fact his invention, is of slight value or importance in his patent. His patent covers it, and if not new, the patent must be void."

Rex vs. Cutler, 1 Starkie R., 354.

Davieson, Patents, 398—404.

Bovil vs. Moore, 2 Marsh R., 211.

Wyeth vs. Stone (1 Story, at p. 285). "In order to ascertain the true construction of the specification in this respect, we must look to the summing up of the invention, and the claim therefor asserted in the specification; for it is the duty of the patentee to sum up his invention in clear and determinate terms. This was the doctrine maintained in Moody vs. Fishe (2 Mason 112); and I see no reason to doubt it, or depart from it."

Act of 1836, Sec. 6, provides, "And he shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery."

This being a statutory requirement, he is concluded by his own acts under it.

THIRD.—*What is described in a patent and not claimed, whether invented by the patentee or not, is dedicated to the public, and cannot be afterwards claimed as a part of his patent, in a reissue or otherwise.*

The 6th section of the act of 1836 requires, the applicant "shall particularly specify and point out the part, improvement, or combination which he claims as his own invention." If he omits to claim, it is evidence of non-invention, or abandonment, or dedication to the public. The object of this provision is to enable the public to know what they may use and what they cannot.

Battin vs. *Taggert.* (Kane—Sept. 10, 1851). "1. That a description by the applicant for a patent of a machine or part of a machine, in his specification, unaccompanied by notice that he has rights in it as inventor, or that he desires to secure title to it as patentee, is a dedication of it to the public." "Neither of these sections authorizes a change in the character of the claim, the substitution of a different patentable subject. The defect to be remedied, is either some insufficiency of description, or an error in claiming too much."

A dedication cannot be recalled.

Battin vs. *Taggert.* By Kane. Sept 1851.

Pennock vs. Dialogue. 2 Pet. 1, 15–16.

The following things in the second reissue, in 1848, *are not found in the first, of* 1846:

1. The second claim in the reissue of 1848, which is for the *employment of the machinery called the register*, or recording instrument composed of the train of clock wheels, cylinders, and other apparatus, or their equivalents for moving the material upon which the characters are to be imprinted, and for imprinting said characters, as set forth in the description of the second part of his invention, essentially differs from the fourth claim of the reissue of 1846, which is for a train of clockwork, and spring, in *combination with an electro-magnet.*

2. The third claim in the reissue of 1848, is not found in that of 1846 at all.

3. The fifth claim of the reissue of 1848, for the system of signs &c, is not in the reissue of 1846.

4. The sixth claim of the reissue of 1848, which is for a system of signs in *combination with machinery for recording them*, varies from the second claim in that of 1846, which is for a system of signs in *combination with the telegraph.*

5. The eighth claim in the reissue of 1848, is not contained in the reissue of 1846.

The following claims in the patent of 1840 *were dropped in the reissue of* 1846, *and became public property:*

1. The sixth claim, which is for the application of electro-magnets by means of one or more circuits of conductors from any known generator of electricity or galvanism to the several levers in the machinery described to impart motion &c., for transmitting intelligence between a distant point, or simultaneously to several points.

2. The seventh claim is for the mode and process of recording signs by the use of electro-magnetism, as described in the specification.

3. The eighth claim is for the combination of electro-magnets in one or more circuits, for transmitting intelligence.

4. The ninth claim is for the combination and adaptation of the mechanism and system of type and signs with a dictionary, as described.

These four claims were dropped in 1846, though appearing to a certain extent in the second reissue.

The following claim in the patent of 1846 *was dropped in the reissue of* 1848.

The second claim in the patent of 1846 was "for the use of a local battery and magnet, in combination with a battery and magnet connected with a main line or lines of conductors, for the purpose above specified."

The public have a right to all that Morse has thus dropped; and they will cover the whole that the defendants use, which Morse asserts is a violation of his patents.

The including the things dropped in the first reissue of his patent of 1840, in the second reissue, was appropriating what belonged to the public. It had been previously patented, and described in a printed publication: this violates his patent.

FOURTH.—*A patent void in part is void in whole, except when otherwise provided by statute.*

A patent is an entirety, and, at common law, if void it was wholly so, there being no rule by which it could be good in part and bad in part. If the Crown had been deceived in the grant in any particular, the whole patent was a nullity.

In *Wyeth vs. Stone* (1 Story, 285—6), STORY, J., says: "A claim broader than the actual invention of the patentee is, for that very reason, upon principle of common law, utterly void, and the patent is a nullity."

In *Moody vs. Fishe* (2 Mason, p. 118, 119), STORY, J., says: "He cannot afterwards be permitted to sustain his patent by showing that *some part* which he claims in his summing up as his invention, though not in part his invention, is of slight value or importance in his patent. His patent covers it, and if it is not new the patent is void."

In *Woodcock vs. Parker* (1 Gall. 437), he said, "This present patent is admitted to comprehend the whole machine; it is too broad, and therefore void."

In *Evans vs. Eaton* (7 Wheat. 356. 5 Con. p. 302, p. 314), STORY, J., says," If therefore the patent be for the whole machine, the party can maintain title to it only by establishing that it is substantially new in its structure and mode of operation. If the same combination existed before, in machines of the same nature, up to a certain point, and the party's invention consists in the adding some new machinery, it includes more than his invention, and therefore cannot be supported." p. 315. "It never could have been the intention of this court, to declare, in direct opposition to the terms of the patent act, that a party was entitled to recover although he should be proved not to have been the inventor of the machine patented."

In *Bovill* vs. *Moore* (Davis' Pats., p. 398), GIBBS, CH. J., said, "The specification contains an account of all which is stated to be invented by him, and he is bound to confine himself to that which is his invention; and if in his specification he has exceeded the limits of what he has invented, and of which he is entitled to the sole privilege, though in other respects there may be no objection to his patent, that will overturn it; for he will not then have registered a specification of his invention; it will be irregular in having exceeded the limits of that invention."

The acts of 1836 and 1839, proceed upon the ground that this is the law; and the latter act has not changed it when there is no disclaimer. The 7th section of the act of 1839, which authorizes a disclaimer in cases of *inadvertence, accident, or mistake*, has been held to apply only to suits pending when the disclaimer was filed. *Wyeth* vs. *Stone*, 1 Story, 273, 293.

The 9th section authorizes suits for "any infringement of such part of the invention or discovery as shall be *bona fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have a legal right to claim."

Then follows this proviso: "*Provided, however,* That no person bringing such suit, shall be entitled to the benefits of the provisions contained in this section, who shall have unreasonably neglected or delayed to enter at the patent office a disclaimer as aforesaid."

This leaves the law where it stood before, where there has been no disclaimer, the last proviso controlling what precedes it. The disclaimer must be before suit, so that issue can be taken on the question of unreasonable neglect. If not made before suit, it might be forever omitted.

In *Wyeth* vs. *Stone* (1 Story, 294), STORY, J., says, "The disclaimers in the 9th section apply solely to suits brought after the disclaimer is filed." At p. 295, he says, "Still, however, it does not seem to me that a Court of Equity ought to interfere to grant a perpetual injunction in a case of this sort, whatever might be the right and remedy at law, unless a disclaimer has been in fact filed at the patent office before the suit is brought. The granting of such an injunction is a matter resting in the sound discretion of the court; and if the court should grant a perpetual injunction before any disclaimer is filed, it may be, that the patentee may never afterwards within a reasonable time file any disclaimer, although *the act certainly contemplates the neglect, or delay to do so, to be a good defense upon a patent to secure the rights granted thereby.*"

FIFTH.—*An invention is not complete, so as to be patentable or to bar the obtaining a patent by another inventor, until it is perfected and adapted to use.*

Reed vs. *Cutter*, 1 Story, 590, 597—599; *Washburn* vs. *Gould*, 3 Story, 133; *Allen* vs. *Blunt*, 2 Wood. & Min, 121, 141.

SIXTH.—*Where a patent is for a combination of parts, and not for the different parts composing the combination, the use of any of those parts less than the whole is not an infringement.*

Barrett vs. *Hall*, 1 Mason, 447; *Moody* vs. *Fiske*, 2 Mason, 117; *Prouty* vs. *Draper*, 1 Story, 568; *Howe* vs. *Abbott*, 2 Story, 190; *Brooks* vs. *Jenkins*, 3 McLean, 433; *Evans* vs. *Eaton*, 1 Pet. C. C. R., 322. Curtis on Patents, Sections 8, 9, 10, 11. *Prouty* vs. *Ruggles*, 16 Pet., 336.

In this case, Chief J. Taney, at p. 341, said, "And this combination composed of all the parts mentioned in the specification, and arranged with reference to each other and to other parts of the plough in the manner therein described, is stated to be the improvement, and is the thing patented. The use of any two of these parts only, or of two combined with a third, which is substantially different, *in form, or manner of its arrangement and connection with the others*, is therefore not the thing patented. It is not the same combination if it substantially differs from it in any of its parts. The jogging of the standard into the beam, and its extension backward from the bolt, are both treated by the plantiffs as essential parts of their combination for the purposes of brace and draft, consequently the use of either alone, by the defendants, would not be the same improvement, nor infringe the patent of the plaintiffs."

SEVENTH.—*Morse's patents of* 1846 *and* 1848, *are void, because he was not the first inventor of the things patented, or of substantial and material parts thereof.*

The sixth section of the act of 1836, provides that a person who has invented &c., "not *known* or *used* by others before his or their discovery or invention thereof;" and he must make oath, "that he does verily believe, that he is the original and first inventor," &c.

The seventh provides that if on examination of it "shall not appear to the Commissioner, that the same had been invented or discovered by any other person in this country, prior to the alleged discovery thereof by the applicant ———, if he shall deem it sufficiently useful and important, it shall be his duty to issue a patent therefor." The section then goes on to provide a different course, if "on such examination it shall appear to the Commissioner, that the applicant was not the original and *first* inventor thereof, or that *any part* of that which is claimed as new, had been invented or discovered in this or a foreign country, as aforesaid."

This latter provision is in harmony with the sixth section, and must control what precedes it if in the seventh there is a conflict.

The eighth section provides an appeal where "either party shall be dissatisfied with the decision of the commissioner on the question of *priority* of right, or *invention*."

The fifteenth provides that the defendant may give in evidence, "that the patentee was not the original and *first* inventor or discoverer of the thing patented, or a *substantial part* thereof claimed as new. "There can be but one *first* inventor; and these provisions show that Congress intended that he, and no one else, should be entitled to a patent.

The decisions of the Federal judiciary, commencing in 1804, and coming down to this time, confirm this assumption. Kent says: "If the patentee be not the first or original inventor in reference *to all the world*, he is not entitled to a patent, even though he had no knowledge of the previous use or previous description of the invention in any printed publication; for the law presumes he may have known it. 2 Kent, 368,

1804, Ruetgen *vs.* Kanowrs, 1 Wash., 170.
1808, Dawson *vs.* Fallen, 2 Wash., 311.
1809, Evans *vs.* Weiss, 2 Wash., 342.
1813, Woodcock *vs.* Parker, 1 Gall., 438.
1814, Ordorne *vs.* Winkley, 2 Gall., 51.
1816, Evans *vs.* Eaton, 1 Pet., C. C. R., 322.
1817, Bedford *vs.* Hunt, 1 Mason, 302.
1818, Evans *vs.* Eaton, 3 Wheat, 454 (4 Cond. R., 307-8).
1825, Mellus *vs.* Silsbee, 4 Mason, 108—p. 110-111.
1829, Pennock *vs.* Dialogue, 2 Pet. 1-22-23.

"It (the 6th section, act of 1793) gives the right to the *first and true inventor and to him only;* and if known and used before his supposed discovery, he is not the first, although he may be a true inventor; and this is the case to which the clause looks."

1831, Whitney *vs.* Emmett, 1 Baldwin, 303, p. 321–322.

"The invention must be new to all the world." "If you think the thing patented not new, but had been known or used anywhere before the application for the patent, you will find generally for the defendants."

1833, Shaw *vs.* Cooper, 7 Pet., 292–313.

In this case, Mc Lean, Justice, said: "The plaintiff's case therefore comes under the act of 1800, extending the right of obtaining patents to aliens, * * * the concluding part of the section expressly declares, that every patent obtained pursuant to that act, for any invention which it should afterwards appear had been known or used previous to such application for a patent, should be void. There was nothing in the act confining such use to the United States; and that if the invention was previously known in England or France, it was sufficient to avoid the patent under that act."

So the law stood prior to the act of 1836, and has not been changed in this respect, as above shown.

1841, *Reed* vs. *Cutler* (1 Story, 590, p. 596).

STORY, in this case, says—"Under the patent laws of the United States, the applicant for a patent must be the *first* as well as the *original* inventor; and a subsequent inventor, although an original inventor, is not entitled to a patent if the invention is perfected and put into use by the first and original inventor; and it is of no consequence whether the invention is extensively known or used, or whether the knowledge or use thereof is limited to a few persons, or even to the first inventor himself, or is kept a secret by the first inventor."

"It is sufficient that he is the *first* inventor, to entitle him to a patent; and *no subsequent inventor* has a right to deprive him of the right to use his own invention."

"The language of the patent acts of 1836 and 1837, *fully establish this construction;* and indeed, this has been the habitual, if not the invariable, *interpretation of all our patent acts, from the origin of our government.* The language of the act of 1836, '*not known or used by others* before his or their discovery thereof,' has never been supposed to vary this construction, or to require the invention should be known to more than one person, if it has been put into actual practical use."

"In *Pennoch* vs. *Dialogue* (2 Pet. 1, 22, 23,), the Supreme Court expressly held that the section of the patent act then in force (and ON THIS POINT THE LAW HAS UNDERGONE NO ALTERATION), gives the right to the true and first inventor, and to him only; if *known and used before his discovery,* he is not the *first,* although he may be the true inventor, and that is the case to which this clause looks."

1844. In *Washburn* vs. *Gould* (3 Story 122, 133), STORY, J., says, "The law is, whoever *first perfects* a machine is entitled to a patent, and is *the real inventor*, although others may previously have had the idea, and made some experiments towards putting it into practice."

"At any rate, he is *the inventor* and entitled to a patent *who first brought the machine to perfection, and made it capable of useful operation.*"

1846. *Allen* vs. *Blunt,* (2 W. & M. 121, 140), WOODBURY, J., said—"6. The next ruling involves the question, whether, under the act of 1836, when the inquiry is which is the original invention, the earliest is not to prevail over the succeeding one, although a succeeding one may be made and used before the letters patent are taken out by the first. There is no doubt it must prevail, as a matter of historical and chronological truth. It is in *truth* the *first* invention."

Kent, Story, and Woodbury, confirm the views which we take of this statute. Morse not being the *first* inventor, his patent is void.

EIGHTH.—*Morse's reissued patents, dated June* 13, 1848, *are void, because he has not shown that the surrendered patents were inoperative or invalid for defective specification, or* *otherwise, so as to confer on the commissioner jurisdiction to make such reissues. The surrendered patents being set out, disprove any such jurisdiction.*

The power to accept surrenders and make reissues, is wholly derived from the 13th section of the act of 1836. It can only be done when the patent "shall be *inoperative or invalid*, by reason of a *defective or insufficient* description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had" the right to claim as new. "If the error has, or shall have arisen from *inadvertency, accident, or mistake*," and without fraud, the Commissioner may receive the surrender and grant a reissue.

The jurisdiction only attaches where the patent was *inoperative or invalid*, and that occasioned by *inadvertency, accident, or mistake*. These facts must be shown to give jurisdiction. Here, too, old patents disprove that they were *invalid or inoperative*, and show an absolute want of jurisdiction.

The Commissioner's jurisdiction is statutory, and must be strictly followed; and nothing can be presumed, to make it out.

The words "inoperative" and "invalid," in this case, mean the same thing. A patent that is invalid is also inoperative, and one that is inoperative, is invalid. This is rendered clear by the use of the same words in the 16th section, where provision is made for the action of the court in cases of contested cases.

Shaw vs. *Cooper*, 7 Pet. 290, 321, McLEAN, Justice, says—"And the same evidence which would defeat his application for a patent, would at any subsequent period, be fatal to his right. The evidence he exhibits to the Department of State, is not only *ex parte*, but interested; and the questions of fact are left open to be contravened by every one who shall think proper to contest the right under the patent."

In *Grant* vs. *Raymond*, 6 Pet. 218, 246, MARSHALL, Ch. J., says—"If he shows that the patentee has failed in any of those pre-requisites on which the authority to issue a patent is made to depend, his defense is complete."

In the same case the court put amended patents on the same footing. p. 242.

"The counsel for the plaintiff in error have shown very clearly that the question of inadvertence or mistake is a judicial question, which cannot be decided by the Secretary of State. Neither can he decide those judicial questions on which the validity of the first patent depends. Yet he issues them without inquiring into them. Why may he not, in like manner, issue the second patent also? The correct performance of all those preliminaries on which the validity of the original depends, are always examinable in the court in which a suit for its violation shall be brought. Why may not those points on which the validity of the amended patent depends be examined before the same tribunal? In the case under consideration, those questions were not supposed by the circuit court to have been decided by the Department of State, but were expressly submitted to the jury. The rightfulness of issuing the new patent is declared to depend on the fact, that 'the defect in the specification arose from inadvertence or mistake, and without any fraud or misconduct on the part of the patentee.' The jury of course were to inquire into the fact. The condition on which the right to issue the patent depended, could be stated to them for no other purpose."

NINTH.—*The patent of* 1840, *as secondly reissued, is void, because the Commissioner had no authority to accept a second surrender and make a second reissue.*

A statute power when once exercised, cannot be the basis of a second exertion of it.

The presumption is that on the first reissue the invalidity was cured. No provision is made for a second accident, mistake, or inadvertency.

It would be impolitic to allow continual surrenders and reissues, and would lead to endless abuses and frauds.

Reissues are the very fountain head of litigation.

TENTH.—*Morse's patent of* 1840, *as secondly reissued, is void; because it is broader than the invention originally patented.*

1. The first claim is for the use of the motive power of *magnetism*, which he did not invent. In the original there was no such claim, it being there limited to the application and arrangement of electro-magnets.

2. In his second claim he includes the employment of machinery, called a register &c., or their equivalent. In the original it is for a combination of machinery, constituting the recording cylinder as described, which at page 77 includes a "fly" and "spiral spring."

3. The third claim is for the invention of a combination of machinery described, consisting of a generator of electricity, circuit of conductors, contrivances for closing and breaking the circuit, electro-magnet pen or contrivance for marking, machinery for sustaining and moving paper,—all constituting one apparatus.

There was no such claim in the original, and it is wholly an enlargement. It includes the "fly" and "spiral spring," which were not in the original. In the original he describes a mode of setting his clock-work in motion by an electro-magnet (p. 61); but he now claims a different method (p. 77), which was not in the original at all. Also includes breaking and closing the circuit by metal contact, by applying the hand or machinery—in other words, all modes. p. 76.

4. The fourth claim is for the combination of two or more galvanic circuits, with independent batteries, "to obviate the diminished force of the electro-magnetism in long circuits."

In the original it is for "combination of electro-magnets in one or more circuits of conductors, with armatures of magnets (claim 8). The original related to the position of the magnets and armatures, and the reissue includes batteries, and their relations and combinations described, which enlarges the claim.

5. The fifth claim is for the invention of the system of signs, consisting of dots, &c.

In the original there is no such claim. The only way signs are spoken of, is "the use, system, formation, and arrangement, of type and signs for transmitting intelligence, by the application of electro-magnetism and metallic conductors, *combined* with mechanism." The combination is dropped, and elements claimed.

6. The sixth claim is for a system of signs, consisting of dots, &c., in combination with *machinery* (generally) for recording.

There is no such claim in the original. It is there in *combination with machinery described.* It is enlarged from this limited use, to one which extends to all machinery.

7. The seventh claim is for the invention of types or their equivalent, and typerule and portrule, in combination with the signal lever, or its equivalent, as described, for the purpose of closing and breaking the circuit.

In the original there is no such combination. There, the first is for a combination that contains, in addition, "a straight portrule, a circular portrule, two signal levers, a register lever, and an alarm lever with its hammer, combined with an electro-magnet, and equivalents are not mentioned.

This seventh claim is wholly an addition to his former claims.

8. This eighth claim is wholly an addition, and has nothing resembling it in the original.

His ninth claim in the original is for adapting mechanism and system of type and signs in the dictionary or vocabulary.

ELEVENTH.—*Morse's patent of* 1846 *is void,*

1. Because material parts of it had been known and in public use before his application.

The first claim covers the inventions for connecting circuits used by Davy, Wheatstone, and Henry in 1837.

2. Because the same was described by Henry in Silliman's Journal, and in the London Mechanics' Magazine, containing an account of Davy's invention; and by Vail, in giving Morse's and others.

3. Because the same invention, or a substantial part thereof, was patented by Wheatstone, Davy, and Morse himself, prior to his application for his patent of 1846.

This first claim in the re-issue of the patent of 1846, is the same thing as the fourth claim of the last reissue of the patent of 1840 (p. 79--87).

The account given by Henry (p. 422) and Moss (p. 467) shows that Henry's, Wheatstone's, and Davy's, were the same as Morse's first claim of the reissue of the patent of 1846.

TWELFTH.—*Morse's reissued patent is void, because it is broader than the original.*

1. He claims the employment of a receiving magnet, or its equivalent, in *combination* with a short, local, independent circuit, having a register magnet, to obtain power.

There is no such claim in the original. He there claimed the *invention* of the receiving magnet, or registering contrivances, which sustained certain relations, as would enable him to obtain power, &c., without mentioning a short, local, independent circuit. He now claims two short local circuits. The claim is materially enlarged.

2. His third claim is for a combination which includes the pen-lever or "its equivalent," and for any thing over which paper may be passed for the purpose of receiving the impression of characters &c., by indentation on paper and other fabrics, dispensing with coloring matter, &c.

Here is a palpable enlargement of his claim.

3. His historical recital is an unauthorized addition, and not necessary to perfect his specification.

THIRTEENTH.—*The surrender and reissue on account af a defective specification authorizes amendments only, and not the changing the specification into a new one.*

This case illustrates the danger of allowing a patentee, under pretense of correcting a specification which was so defective as to render it invalid, to remodel it entirely, and make new claims.

There was no defect to correct, and no court can distinguish between the original and corrections. Numerous and important enlargements have been made in the claims; but some of them are so ingeniously done, as to render it a work of care and patience to point them out.

FOURTEENTH.—*In the second reissue of the letters of* 1840, *Morse patents a principle or effect, and not a machine, manufacture, or composition of matter, or an improvement upon either; and it is therefore void.*

The first and eighth claims are purely for principles, while the 2, 3, 4, 5, 6, and 7, are broad, and cover all he invented. He claims the exclusive use of the power of magnetism, when developed by the section of currents for recording, without regard to means.

The Constitution authorizes Congress to pass laws, "*to promote the progress of the useful arts by securing to inventors the exclusive right to their discoveries for limited periods.*"

This authorizes patents to promote the useful arts, and not for an art itself; and this statute must be construed with reference to the constitutional authority under which it was enacted; because if not within it, the act, as well as the patent, would be void. This is a true interpretation of the 6th and 7th sections of the act of 1836.

The term art in the 6th section, is interpreted by what follows, when "art, machine, manufacture, or composition of matter," are embraced by "invention or discovery," as synonymes. Before obtaining a patent, the "inventor" must give a written description, showing "the manner and process of making, constructing, using, and compounding the same." The description must be "in such full, clear, and exact terms," that a "person skilled in the *art or science* to which it appertains, or with which it is most nearly connected, to *make*, *construct*, *compound*, and use the same."

This language is based upon the idea that the thing patented was the thing to promote the art, and not the art itself.

Drawings and models are required where the invention can be thus represented. The mode of using magnetism may be thus represented, but the broad claim of its general use cannot be thus exhibited.

By the 7th section of the act of 1836, one of the Board of Examiners is to be selected, "for his knowledge and skill in the *particular* art, manufacture, or branch of science, to which the alleged invention appertains." This language would be inappropriate, if he was selected to pass upon an art itself or principle.

The 18th section provides that the "patentee of an invention or discovery," may apply for an extension. These are the same words used in the 6th and 7th sections as equivalent to "machine, manufacture, or composition of matter," which persons skilled in, can make, construct, compound, and use.

Among the defenses enumerated in the 15th section, a patent, under certain circumstances, is to be void if the "description and specification filed does not contain the whole truth relative to his invention or discovery, or that it *contains more than is necessary to produce the described effect.*"

This language applies to a mode, and not a principle. A principle may fall short of developing a useful result, but to develop one more extensive than is needed to produce such a result can occasion no injury. The greater includes the less, and the public gain thereby. If a patent, is for a principle, it cannot be too large or too small. The term implies an entirety, and the language quoted from the act cannot apply to it.

The 20th section requires the Commissioner to classify and arrange, &c., "the models and specimens of compositions and fabrics, and other manufactures and works of art, patented and unpatented." This provision covers every thing in the office, and is inconsistent with the idea that an "art" or "principle," can be patented. It is models &c., and not "arts" or "principles" that are to be classified and arranged.

By the fifth section of the act of 1837, on a reissue the patentee may have "several patents" "for distinct and separate parts of the thing patented." This language will not apply to an "art," "principle," or "effect," neither of which are divisible, though a mode of promoting an "art" &c. may be divided.

The ninth section of the act of 1837, and the fifteenth of that of 1836, speak of a "material and substantial part, and also parts that are not substantial or material, though this may be true as to a mode of promoting the useful arts.

The seventh section of the act of 1839 provides that the purchaser &c. of "any newly invented machine, manufacture, or composition of matter," prior to the inventor's making application, shall have the right to use &c., and no patent shall be held invalid on account of such prior use, &c. Now, unless the grant of patents is confined to the "machine, manufacture, or composition of matter," then without a shadow of a reason for it, patents for an art, or principle, stand upon a different footing from those enumerated. If this section relates solely to patents for machines &c., so as not to except Morse's from its operation, then he is not within the protection of the last clause of this section; and having sold and used before his application for the patent of 1846, that patent is void.

The eleventh section of the act of 1836 provides that the Commissioner and examiners may be examined under oath before the judge, "in explanation of the principles of the machine, or other thing for which a patent in such case is prayed for." This language would be absurd, if applied to an art, principle, or effect.

Man never invented an art, or principle, or effect. He has contributed to promote arts, and apply principles, to produce effects upon the arts for the benefit of mankind. The term "invention" implies all this and no more. A patent for a principle, or effect, could not produce any thing useful to mankind; but a mode of using the one, or producing the other, might be highly so. This view is supported by numerous judicial decisions.

In *Kemper's* case (Curtis on patents, p. 500), CHIEF JUSTICE CRANCH decided in 1841, that in the Constitution and statutes, the words "discoveries" and "discoverers" meant precisely the same as "inventions" and "inventors." That a discovery, as such, was not a thing invented, and therefore not patentable; because it previously existed, while invention related to the contrivance and production of something that did not before exist.

In *Wyeth* vs. *Stone* (1 Story, p. 285), STORY, JUSTICE, enquires whether the patent is, "for any mode whatsoever of cutting ice by means of an apparatus, worked by power, other than human, in the abstract, whatever it may be? If it be the latter, it is plain that the patent is void, as it is for an abstract principle, and broader than the invention, which is only for cutting ice by one particular mode, or by a particular mode, apparatus, or machinery." The specification states: "it is claimed as new to cut ice of a uniform size, by means of an apparatus worked by any other power than human. The invention of this art, as well as the particular method of the application of the principle, are claimed by the subscriber." (*Wyeth.*) It is plain then, that here the patentee claims the exclusive art of cutting ice by means of any power other than human power. Such a claim is utterly unmaintainable in point of law. It is a claim for an art or principle in the abstract, and not for any particular method, or machinery, by which it is to be cut. No man can have a right to cut ice by all means, or methods, nor by all sorts of apparatus, although he is not the inventor of any or all such methods, or apparatus. A claim broader than the actual invention of the patentee is, for that very reason, upon principles of common law, utterly void, and the patent is a nullity!!

Same principle in *Hill* vs. *Thompson*, 8 Taunton, 375; found also in 4 Com. Law R., p. 151.

Brunton vs. *Hawks*, 4 Barn. and Ald., 541; found also 6 Com. Law R., 509.

Moody vs. *Fiske*, 2 Mason, at p. 118.

In *Whittimore* vs. *Cutter* (1 Gall. 478— 480), STORY, JUSTICE, says: "A patent, in no case can be for an effect only, but for an effect produced in a given manner, or by a particular operation. For instance, no patent can be obtained for the admeasurement of time, or the expansive operations of steam, but only for a new mode, or new application of machinery, to produce these effects."

In *Stone* vs. *Sprague* (1 Story 270, 272), STORY, J., after stating that the court had put a particular construction upon the patent, says: "We hold this opinion the more readily, because we are of opinion that if it be construed to include all modes of communicating motion from the reel to the yarn beam, and of the connection of the one to the other generally, it is utterly void, as being an attempt to maintain a patent for an abstract principle, or for all possible or probable modes whatsoever of communication, although they may be invented by others, and substantially differ from the mode described by the plaintiff in his specification. A man might just as well claim a title to all possible or practicable modes of communicating motion from a steam engine to a steamboat, although he had invented but one mode; or, indeed, communicating motion from any one thing to all or any other things, simply because he had invented one mode of communicating motion from one machine to another in a particular case."

Blanchard vs. *Sprague* (3 Sumner, 535, at p. 540), proceeds upon the ground that patents for a principle not embodied in a machine are void. The head note is, "A patent will not be valid, which is simply for a principle, or function, detached from machinery."

This case is also reported in 2 Story 164, with a similar head note. In *Howe* vs. *Abbott*, 2 Story at p. 194, *Story, J.*, says: "But he cannot have a patent for a result merely, without using some new mode or process to produce it."

In *Smith* vs. *Downing*, reported in the Boston papers, Judge Woodbury held, "What is to be protected is not an abstract or isolated principle, but the embodiment of a principle into a machine or manufacture, as described in the specification; and it is the invention, in conformity to that embodiment or representation of its working, which the act of Congress will protect, (Bolton vs. Bull, 2 Hen. Bl. 458, 403, 483, and D. & E. 95. Web., Ca., 208; Web. on Pat. 4, 58, 126—8; 2 Stor. R. 412, 408; Curtis on Pa. §4, 96 & 145; 1 Stor. R. 271; Godson on P. 72; Phil. Pa. 90; 1 Gallis, 478; Hindmarsh, 157). Because, by those laws, the inventor is not to be protected, unless he describes plainly and fully what he has done, so that the public may copy or imitate, and use it after his term expires.

"That is the consideration for the exclusive use during the period of the patent; and having this, prevents the patentee from claiming afterwards more than he had invented when his patent issued. (Web. Cases, 719, 1 & 2, and D. & E. 100, 2; Curtis, §128, 205.) And what he does not, or certainly what in the misty future he cannot, describe, he must be presumed not to have invented. (2 Hen. Bl. 488.)

"The avoidance of patents for claiming too much is of frequent occurrence, and needs no explanation as to the reasons for it, when an applicant is so improvident or unjust to others as to claim for himself more than he invented, and the credit or profit of which belongs to others rather than himself. (See 1 Stor. R. 273; 2 Stor. R. 4; 2 Sumner, 482; 1 Web. Cases, 485; 6 Peters, 218; 1 Wood and Min. 53—8.)

"As to the second objection, that this would be seeking to cover by a patent a new principle, without reference to any mode or method of enforcing it, the patent laws are well settled never to permit it. (2 Hen. Pat. 4 and 6.)

"The impropriety of claiming a patent for the invention or discovery of a new principle, however important it may be *per se*, rests on the idea, that the exclusive use of the invention, for a term of years, is given to the patentee, to reward his genius and expense in making the invention and pointing out in his specification how it can be used beneficially, and the machine, if it be a machine, easily made by any mechanic for general employment. The patent is, in such case, and must be in order to possess validity, not for the principle, but for the mode, machine, or manufacture, to carry out the principle and reduce it to practice. (Webs. on Pat. 45—8.) In short, the principle thus becomes the *modus operandi*, and rests in the new mode adopted to accomplish certain results. And though some expressions may have been used by one or two judges, which look like a sanction to patenting a principle ; yet they are used in the above sense, of a principle in operation, in the manner set out in the specification, or, are used too loosely from haste and inadvertence. Except for this view as to the method, what use would there be in a specification describing the machine or method ? So where any judge speaks of patenting an art, it is not an art in the abstract, without a specification of the manner in which it is to operate, as a manufacture or otherwise. But it is the art thus explained in the specification and illustrated by a machine, or model, or drawings, when of a character to be. It is the art so represented or exemplified, like the principle thus embodied, which alone the patent laws ever are designed to protect. In the English Patent acts, the word 'art' is not used at all.

" And in ours, as well as in our Constitution, the word art means a useful art or a manufacture which is beneficial, and which, by the same law, is required to be described with exactness in its mode of operation, and which, of course, for the reasons already laid down, can be protected only in the mode and to the extent thus described. (1 Story R., 273, 285 ; 4 Wash. C. C., 9, 12 ; 1 Howard, 204; Web. on P., 8, 9 ; Phil. Pat., 74 to 76; Hindmarsh, 49 ; Curtis, 38—9th section.)

" No lawyer, conversant with the patent system, could for a moment suppose, that because Arkwright first invented and perfected the art of spinning by machinery, he could have taken out a patent for this art generally, and covered and monopolized all kinds of future and different improvements in that art. On the contrary, he could shield no mode of the art, but that which he had devised, used, and described. So it has been held, that a patent for cutting ice by human power does not cover any mode but that described. (1 Story, R. 273.)

" So, though Woodworth first invented planing boards by machinery, he could not take out a patent for that art, principle, or system generally, and thus either monopolize or prevent future improvements when differing substantially from his machine. But the whole effort of Woodworth's assignees has been to describe his particular mode of planing, so as not to omit any thing material or to cover too much ; and no attempt is made to protect any thing connected with planing by machinery, except the mode thus described, or what is substantially the same.

" In answer to this, it is true that the general object of the two is the same ; and so it is with all rival inventions. But this, of course, does not necessarily make all new inventions or patents for a like object an encroachment on all previous ones. Such a doctrine would discourage progress, rather than encourage useful arts, as the Constitution wishes to be done, by granting patents.

" It would, after one invention as to the same subject, or same principle or art, halt and bar all further advances on the same subject.

" It would petrify every thing as it stood, to the great loss of mankind, and in derogation of both private and public rights to advance human improvements and human power. It would also render the first improver a monopolist, and exclude the exercise or reward of further genius, science, and labor in the same line, however useful and however much needed, beyond what has already been accomplished."

In *Detmould* vs. *Reeves*, decided at the Oct. Term, 1851, Judge KANE, in delivering the opinion of the Circuit Court, confirmed the views of Judge Woodbury.

This is the English doctrine :

In *Baulton & Watt* vs. *Bull* (2 H. Bl. 463—Davis on Patents, 162, at p. 192), SHEATH, J. says—" The steam engine furnishes an instance. The Marquis of Worcester discovered, in the last century, the expansive force of steam, and first applied it to machinery. As the original inventor, he was clearly entitled to a patent. Would the patent have been good, applied to all machinery, or to the machines which he had discovered ? The patent decides the question. It must be for the vendible matter, and not the principle. Another objection may be urged against the patent, upon the application of the principle to an old machine, which is, that whatever machinery may hereafter be invented would be an infringement of the patent, if it be founded upon the same principle. If this were so, it would reverse the clearest positions of law respecting patents for machinery, by which it has always been holden, that the organization of a machine may be the subject of a patent, but principles cannot. If the argument for the patentee were correct, it would follow, that when a patent was obtained for the principle the organization would be of no consequence. Therefore the patent for the application of the principle, must be as bad as the patent for the principle itself. It has been argued for the patentee, that he could not specify all the cases to which his machinery could be applied. The answer seems obvious, that what he cannot specify he has not invented. * * * This patent extends to all machinery that may be made on this principle ; so that he has taken a patent for more than he has specified."

Buller, J. (p. 196), says—"I think it was admitted (by the plaintiff) that a patent could not be sustained for an idea or principle alone."

"The very statement of what a principle is, proves it not to be the ground of a patent; it is the first ground and rule for arts and sciences, or in other words, the elements and rudiments of them. A patent must be for some new production from those elements, and not for the elements themselves."

Eyre, Ch. J. (at p. 212), says—"Undoubtedly there can be no patent for a mere principle; but for a principle so far embodied and connected with corporeal substances as to be in a condition to act and produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent."

On the other questions, the Com. Pleas disagreed.

The same patent was considered in the King's Bench, in *Hornblower* vs. *Boulton* (Davie's Patent Cases, 221), when Chief Justice Kenyon (p. 224) said—"The principal objection made to this patent by the plaintiffs in error is, that it is a patent for a philosophic principle only, neither organized or capable of being organized; and if the objection were well founded in fact, it would be decisive."

But if Morse in 1840, patented the art, or principle, and covered the whole ground so as to shut out inventors of other modes of using magnetism, then by his own showing, his patent of 1846 is void, because the invention is included in his first patent. A patent can no more cover the whole ground, than a copy-right can secure the entire field of science : both have the same foundation in the Constitution.

R. H. GILLET,
Of Counsel for Defendants.

Appendix to the American Telegraph Magazine.

FIRST TELEGRAPH CASE

BEFORE THE

UNITED STATES SUPREME COURT.

HENRY O'RIELLY AND OTHERS,
APPELLANTS,
versus
S. F. B. MORSE AND OTHERS,
APPELLEES.

SKETCH OF THE

OPENING ARGUMENT OF R. H. GILLET,

ON THE

APPEAL OF O'RIELLY FROM THE DECISION OF JUDGE MONROE IN KENTUCKY.

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NOTE, PREFATORY AND EXPLANATORY.

(*From the American Telegraph Magazine, Jan.*, 1853.*)

THIS case, which originated in the Circuit Court, Kentucky, in 1848-9, was argued in December, 1852, before the Supreme Court, in session at Washington. The hope of receiving the Decision, so as to present it fully to our readers at the earliest practicable moment, has delayed the issue of this number of the Telegraph Magazine; but the publication of that decree, not yet made, must be reserved for a subsequent issue.

In the absence of the Decision, we now commence the publication of the arguments submitted to the Court; and will, as rapidly as practicable, publish reports of the speeches of counsel on both sides, in the most authentic form.

General R. H. Gillet, formerly Solicitor of the Treasury Department, opened the case before the Court; and an outline of his remarks is herewith given as the commencement of the argument—the remarks of other counsel, on both sides, to be given hereafter, in the order of delivery.

The intrinsic importance of this great Telegraph case, which has excited such deep interest throughout the length and breadth of the land—a case important not only as it concerns Telegraph Patents, but as it affects other important Patents and Claims, to the value of many millions of dollars—renders a report of the whole case particularly important. The fact that this is the first case in which the long-contested lightning warfare has been brought in review before the United States Supreme Court, combined with the eminence of counsel employed on both sides, will aid in securing for the arguments an earnest examination and careful preservation on the part of all persons who desire to understand the various essential subjects involved in this extraordinary controversy. In the collection and preservation of all such important matters, we aim to render he American Telegraph Magazine valuable as a ready and permanent reference on all subjects connected with the history of Telegraphing throughout the United States and the world at large. In this case particularly, the extended research which characterizes the labors of both parties has brought together an amount of information upon the subjects discussed more thorough and valuable than was ever before presented within such brief compass.

The counsel for Prof. Morse and his associates were Mr. Gifford of New-York, and Messrs. Hambling and Campbell of Philadelphia.

Senator Chase, of Ohio, concluded the argument which Gen. Gillet commenced, on behalf of the appellants, (O'Rielly and others.)

A few words of explanation seem proper here—to the effect that the Kentucky Decision arose on the effort of O'Rielly to use a new invention made by Zook & Barnes, which he called the "Columbian Telegraph," on the lines which he constructed *southward* of the Ohio, between Louisville and the Gulf of Mexico. *Northward* of the Ohio, on the "Atlantic, Lake and Mississippi Lines," which he constructed and organized, no decision ever was adverse to him; as his contract (of 1845) with Morse gave him the right to use Morse's instruments on all lines wherever he has used them north of the Ohio—O'R. having for the last seven years reserved in trust, on all the lines thus constructed in this latter region, one fourth of all the stock, and all the dividends on that stock, to enable him to fulfil his contract with the Morse Patentees, whenever they fulfil on their part—a fund of such magnitude as was probably never before reserved by any individual for the purpose of meeting the claims of any inventor or patentee.

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* This argument having been inaccurately printed at first, is now re-published in a corrected form. (New-York, November, 1853.)

ARGUMENT

ON THE

APPEAL OF O'RIELLY TO THE U. S. SUPREME COURT, &c.

THIS cause comes here from the Kentucky Circuit, and involves two questions: the validity of Professor Morse's patents, and the identity of his inventions with Barnes' and Zook's Columbian Telegraph, used by O'Rielly. I shall not attempt a history of the rise, progress, and perfection of telegraphic inventions, because it would not, more than the exhibition and lecture proposed on the other side, be found in the record, or aid in determining the legal questions in the case. I shall not controvert Morse's merit as an inventor, while I claim that another useful, and in some respects superior, improvement has been made, which O'Rielly used. But justice requires me to state, that without the great development of electro-magnetic power, discovered by Professor Henry of this city, Morse's invention of applying that power would never have been made. I must also add, but for the skill and perseverance of a most valuable class of men, the telegraphic operators, I fully believe Morse's telegraph would never have been so perfected, and made practically useful. If they have not patents to commemorate the products of their genius and industry, or to enrich themselves, they are none the less meritorious. Their services to mankind are not lessened because their inventions are now embodied in Morse's reïssued patents, swelling his reputation, and increasing his wealth.

I shall not compare Dr. Jackson's and Morse's claims to the invention in 1832, because nothing was then so perfected as to be patentable. Nor is there evidence in this case to show that Morse completed his invention prior to April 8th, 1838. On the 6th of the previous October he filed a caveat, to entitle him to notice if another should apply within a year, upon the alleged ground, "that the machinery for a full practical display of his new invention is not yet completed, and he therefore prays protection of his right until he shall have matured the machinery." Surely, when he had not matured machinery to display his invention, it was not in a condition to be patentable. Hence I shall disregard the speculations of 1832.

This suit is brought on Morse's patent of 1840, reïssued in 1846, and again in 1848, and on his patent of 1846, reïssued in 1848. The bill is clearly multifarious, for including two patents, thereby complicating the trial; but we did not raise that objection in our pleadings, and cannot now do so here, though the Court has the power to interpose it, on its own account. Morse charges O'Rielly with having constructed and used a telegraph in Kentucky, in violation of his (Morse's) patents, by recording signs and making sounds. O'Rielly denies the infringement, and alleges that his (Morse's) patents are invalid for various causes, enumerated in his answer.

A preliminary injunction was granted. Subsequently messages were sent and recorded in Tennessee, and the answers were gathered in Kentucky, by listening to and interpreting the click made by armature when striking against the magnet or stops. For this acoustic offence the operator was arraigned for a contempt of court. Afterwards O'Rielly's transmitting station was removed from Louisville to Jeffersonville, in Indiana, and messages were sent and received over the wires, which extended across Kentucky. These harmless pulsations of the galvanic current, passing between Indiana and Tennessee, were also deemed a contempt. To prevent future violations of law, and further disrespect of judicial proceedings, the Court, by its mandate, directed the Marshal of Kentucky to take possession of the line, and to cut the wires. The Marshal obeyed, and the guillotine was applied to the sinning wires. After the execution, the galvanic lightning ceased its sinful contempts, and judicial dignity was permitted to repose in the enjoyment of all the respect to which its action was entitled. This feat, probably, has not its parallel in the history of judicial proceedings. Decapitating the wicked to prevent their committing sin would not go far beyond it. While I say this, I am bound to say, that the Judge whose acts I am criticising is a learned, pure, and honest man. Nine months after the execution of the wires, on giving good bail, the lightning current was so far forgiven its offences, as to be allowed to flash across Kentucky without fear of the Marshal.

The final decree declared Morse's patents valid, and a perpetual injunction during their lives was ordered. O'Rielly's telegraph was declared to be an infringement, and he was forbidden to use it or one like it, "in the transmission of intelligence, which is in one place, to another distant place, by making thereat a permanent record," or "by making thereat, with the action of the instrument, which would make such characters, *alphabetical sounds*, and out of them, composing such characters." Although alphabetical sounds are not named in Morse's patents, nor a mode of making or using any sounds, except to sound an alarm bell, as Wheatstone had previously done, still, as the operator had heard sounds, and had contrived to interpret them, Morse's monopoly would not be perfect, unless he monopolized sounds, as well as electro-magnetic power. Hence the Court, being misled, was induced to restrain O'Rielly from doing what was not, in any manner whatever, covered by Morse's original patents, or in either of their frequent and mysterious expansions. There being no apology in the patents for this part of the decree, it cannot stand. I leave this point, and go to the other great questions.

The telegraph now used by Morse, and included in his patents, consists of the following things:—

1. *A galvanic battery*, consisting of a zinc and copper plate united by a wire, placed in a cup of nitric acid. That principally used is Groves' battery, invented in 1839. Others had been long known.

2. *Metallic conductors* of copper or iron wire, connected, the one to the zinc, and the other to the copper plate of the battery, insulated on posts in the air. The use of the wires is an old invention. Steinheil used posts in 1837. In 1843 Morse buried his wire in pipes in the ground, but on advice by Professor Henry and others, resorted to the posts.

3. *The ground circuit.* The opposite poles of a battery, here and at Baltimore, are connected by wires to zinc plates in the ground at both places, and with the wires on the poles in the air, and thus a circuit is formed, the earth making a part. This use of the earth was discovered and used by Steinheil in Bavaria in 1837. Morse commenced by using two wires to make the circuit, and subsequently used the earth. The electric current will not flow from one pole of a battery, until means are provided for its return to the other.

4. *A finger key.* This was used by Ampère in 1820. Morse at first used saw-teeth type, a port rule, a forked wire and cup of mercury to plunge it

in, to accomplish the object attained by Ampère in the use of the finger key, which is more simple and convenient.

5. *The electro-magnet*, which attracts a bar of iron. Sturgeon, in England, contrived, in 1825, what was called an electro-magnet. In 1829 Professor Henry invented the powerful and practically useful electro-magnet, now used. It consists of numerous coils of small isolated wire, wound around a bar of soft iron in the form of a horse-shoe. When the galvanic current flows from a battery, it collects in these coils, and the iron bar becomes highly magnetic, and attracts soft iron within its influence. Without this embodier of the current, a sufficient quantity of galvanism could not be transmitted, to become effective by attraction. It is the attractive properties of this electro-magnet when near iron, which constitute the electro-magnetic power used by telegraphers. Morse did not first discover this power. Henry perfected the mode of using it, and rendered it available, for which the world owes him a debt not easily cancelled. His only reward is the exalted reputation it confers.

This power and the means of creating it were public property before Morse's invention. He applied the former to telegraphing by adding,

6. *A recording apparatus*. This consists in so shaping the bar of soft iron, (called an armature,) which is attracted by the electro-magnet, that when it moves toward the electro-magnet, one end, having a point in it, is made to come in contact with a fillet of paper moved by clock-work. When the galvanic circuit is closed by pressing down the finger key, the current collects in the electro-magnet, and attracts the bar of soft iron, or armature, which raises the end containing the point with such force as to indent the paper. When the circuit is broken, the galvanic current vanishes from the electro-magnet, and the latter no longer attracts the iron bar, or armature, and the paper moves on without being indented. The frequency and length of these indentations depend upon the length of time the circuit is opened and closed. These indentations are variously combined, and thus form an alphabet, which operators soon learn. Morse's invention consists solely in this recording apparatus, and arranging it in connection with the circuits. More than that he did not invent. Every thing up to that point was perfect and public property, to be used by those who chose, before his invention. The opening and closing one circuit by another, though patented by Morse, was indisputably invented by Professor Henry years before, and used by Wheatstone before Morse filed his caveat. Not content with the great merit to which this invention entitled him, the American press has teemed with articles, prepared by him or his friends, and thereby the public has been erroneously led to believe that he invented the whole telegraphic apparatus. A false public opinion has been created, which time and judicial inquiry will hereafter correct. History will record, that the telegraph has been produced by the agency of numerous individuals, and that Morse's share in it is not greater than Steinheil's or Henry's. If equal to either, it should satisfy the ambition of even an ambitious man. But Morse's claims are almost unbounded, and centre in the desire of a rich harvest from his patents. Although he did not first discover the motive power of electro-magnetism, he claims its exclusive use, when applied *to make a telegraphic record, or to produce sounds;* that is, he claims all possible modes, when he only invented one mode of applying it. If the law is as he claims it to be, if I invent a mode unknown to him, and infinitely better than his, and use the power of electro-magnetism, which he did not discover, he can use my invention at his pleasure, and can sue and recover against me if I use my own invention. This would be a palpable infringement of the Constitution, which authorizes laws granting the exclusive use by an inventor of his own, and not of another man's, invention. To allow him to recover against me for using my own invention, would be an outrage upon the law, upon common sense, and upon

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justice itself. It will require more than the power and authority of our own pure and venerated judiciary to secure the acquiescence of the American people in such an extraordinary conclusion. A claim to the exclusive use of air, fire, water, and steam, to produce a particular result, would have the same foundation.

Morse's patent, as first issued in 1840, only claimed a certain mode of applying the power of galvanism, or electro-magnetism, and did not claim its exclusive use. In the second reïssue of this patent, a few months after his agents and friends had seen permanent magnetism used in the O'Rielly instrument, he was allowed to claim the exclusive use of "*the motive power of magnetism.*" Morse's instrument can only be worked by electro-magnetism. The Columbian is operated by the employment of two permanent magnets as the motive power. Electro-magnetism is not used in it as a motive power at all, but simply to change the polarity of an iron bar, so as to release or subject it to the power of the permanent magnets. These are not as much affected by atmospheric electricity as the electro-magnet. The testimony shows the instruments to be substantially different; and not a witness swears that the Columbian is an infringement, unless he did so under the belief, that to use magnetism as a motive power, was a violation of Morse's patent. This is either expressly stated, or inferable from the testimony of Morse's witnesses. Those called by O'Rielly clearly show that the two inventions are not alike. We confidently assert that there has been no infringement, because the inventions are unlike in form and structure, and in the power used, and in the mode of its application, and that O'Rielly has used nothing that Morse in fact invented. Before this Court can hold that O'Rielly infringed, it must determine that Morse is entitled to the exclusive use of permanent, as well as electro-magnetism, although differently produced and applied. He has shown no mode of using it, and it cannot be used by any machinery or combination invented by him. It will require more inventive genius than Morse has ever manifested, to produce substantial reasons for determining that these inventions are substantially the same.

I now proceed to other questions.

First. Morse's patent of 1840 is void, because it runs fourteen years from the date of its issue, instead of that length of time from the date of his patent granted in France in 1838, for the same invention.

The seventh section of the act of 1836 prohibits the issue of a patent where one has been previously granted for the same thing. The eighth section modifies this in favor of the true inventor, if, within six months after obtaining letters abroad, he files his specifications and drawings here. The sixth section of the act of 1839 suspends so much of the seventh section of the act of 1836 as relates to patents obtained abroad, with the proviso, "that in *all* cases, every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters patent." The object of this section was to limit patents to fourteen years from the time the inventor first patents the invention, either here or abroad. Under the act of 1836, a patent could run only fourteen years from the time of patenting here, which must have been within six months from the date of the foreign patent. The public would then have had the right to use the invention at the expiration of fourteen years and six months from the date of the foreign patent. Under the construction claimed by Morse, he would be entitled to fourteen years here, though he had had it fourteen abroad, and it had become public property there. This would place us fourteen years behind foreign nations in the right to use a patented invention. Morse claims that the act of 1839 does not reach his case, because he had applied for a patent before it was passed. We deny that his application was a valid one, within the meaning of the law, until he perfected it in 1840. From 1838 it was imperfect, and not conformable to law, and remained unacted upon at his written request, and was therefore no legal application. But if it was, the act makes no exceptions in favor of such a case, or any other one. His was as much within the mischief intended to be corrected, as any case; and the remedy must apply. For this cause, we say this patent is invalid.

Second. In construing patents, and in deciding what the inventions are that are embraced in the patent, the summing up is conclusive, and nothing is patented which is not expressly claimed.

This doctrine is settled in England. In Rex *vs.* Cutler, 1 Starkie R. 354; Bovil *vs.* Moore, 2 Marsh R. 211, this rule was laid down. The elementary authors are to the same effect. Judge Story, in Moody *vs.* Fiske, 2 Mason 112–118, lays down the same rule. In Wyeth *vs.* Stone, 1 Story R. p. 285, he says: "In order to ascertain the true construction of the specification in this respect, we must look to the summing up of the invention, and the claim therefor asserted in the specification; for it is the duty of the patentee to sum up his invention in clear and determinate terms. This was the doctrine maintained in Moody *vs.* Fiske, 2 Mason 112, and I see no reason to doubt or depart from it." In Hovey *vs.* Bemis, 3 Woodbury and Minot 17, this doctrine is fully confirmed. The sixth section of the act of 1836 provides: "And he shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery. This being a statutory requirement, Morse is bound by his acts under it. Settling this position will enable me hereafter to show what Morse has legally included in his several patents.

Third. Whatever is described in Morse's patents and not claimed in the summing up, whether invented by him or not, is abandoned or dedicated to the public, and cannot be afterwards claimed, as a part of his patent in the reïssue, or otherwise.

This proposition is in part the same as the last, but it also declares the effect, or consequence, of describing what is not claimed. The object of the statute in requiring the patentee to specify and point out what he claims, was to protect the patentee against the hazard of being misunderstood as to his invention; and also to enable the public to ascertain what could be lawfully used, and what was prohibited. The printed brief shows the numerous changes that Morse's patents have undergone; and the things described in the first issues and not claimed, but are afterwards included. The alphabet is a specimen. It is claimed in the last, but not in the first patent. Also the exclusive use of electro-magnetism and magnetism. It is as much described in 1840 as in the reïssue of 1848, but it is not claimed in the former. So of numerous things which can only be seen and understood by closely scrutinizing and comparing the original patents with the reïssues.

Morse insists upon the right to claim all that he described, but omitted in the summing up of the original patent. We say that he is concluded by his acts, and that his intentions in relation to these matters, about which we can know nothing, have no bearing upon the case. The public can observe his acts and draw their inferences, and ought not to be prejudiced by his blunders, intentions, or change of purpose. In Battin *vs.* Taggart, Judge Kane held "that a description by the applicant for a patent of a machine, or a part of a machine, in his specification, unaccompanied by notice that he has rights in it as an inventor, or that he desires to secure title to it as patentee, is a dedication of it to the public." "Neither of these sections authorizes a change in the character of the claim, the substitution of a different patentable subject. The defect to be remedied is, either some insufficiency in description, or an error in claiming too much."

In Grant *vs.* Raymond, 6 Peters 248, this court, quoting from Pennock *vs.* Dialogue, 2 Peters 1, says, "It is possible that the inventor may not have intended to give the benefit of his discovery to the public." "But it is not a question of intention," "but of legal inference, resulting from the conduct of the inventor, and affecting the interests of the public." This is reiterated in the opinion delivered in Shaw *vs.* Cooper, 7 Peters 318, where this court again quotes from Pennock *vs.* Dialogue, and says, "It has not been, and indeed cannot be denied, that an inventor may abandon his invention and surrender or dedicate it to the public. This inchoate right, thus gone, cannot afterwards be resumed at his pleasure; for when gifts are once made to the public in this way, they become absolute."

These cases settle the question in our favor. By not claiming the things referred to, Morse dedicated them to the public use, and when once gone, they cannot be recalled. Justice requires this should be so. Before including things in the claim in his patent, it was lawful for any one to use them, and millions might have been invested for that purpose. It would be wrong to allow him, by his own acts, to change these lawful investments into unlawful ones. Public policy, as well as private right, requires that he should be bound by his acts. If this doctrine is applied to Morse's patents, they must fall, for including in the reïssues what belonged to the public when claimed.

Fourth. A patent void in part is void in whole, except when otherwise provided by statute.

A patent is an entirety, and if void in one part it must be wholly so. This was so at common law, and is so by statute. There are numerous defects which will defeat a patent. A disclaimer properly made and recorded will remedy a class of defects in certain cases. But here there has been no disclaimer. If the patent includes what was not lawfully patentable, it vitiates it. In Wyeth *vs.* Stone, 1 Story R. 285, in Moody *vs.* Fiske, 2 Mason 118, and in Woodcock *vs.* Parker, 1 Gall 437, Judge Story held if the claim was too broad the patent was void. In Bovil *vs.* Moore, Ch. J. Gibbs held the same. In Evans *vs.* Eaton, 7 Wheat. 356, this court said, "If therefore the patent be for the whole machine, the party can maintain title to it only by establishing that it is substantially new in its structure and mode of operation."

The suggestion that Morse may disclaim within a reasonable time, which had not elapsed when this suit was brought, is easily answered. We have, by statute, a right to take issue upon that question, but as he had not disclaimed, we have had no opportunity to do so. This court cannot know that Morse will ever disclaim. It is certain he will not, if he can succeed here without doing so. In Wyeth *vs.* Stone, Judge Story held, "If the court should grant a perpetual injunction before any disclaimer is filed, it may be that the patentee may never afterwards, within a reasonable time, file any disclaimer, although the act certainly contemplates the neglect or delay to do so to be a good defence upon a patent to secure the rights granted thereby." As Morse now has in his patents what he could not lawfully claim, they must be bad. He has claimed some things that were public property, and others, like the alphabet, which are not patentable, as well as the exclusive right to use the motive power of electro-magnetism to print letters, when he has shown no mode by which the printing can be done. For these causes, these patents, and especially that of 1840, must be declared invalid.

Fifth. An invention is not complete, so as to be patentable, or to bar the obtaining a patent by another inventor, until it is perfected and adapted to use.

The time when Morse's invention became patentable is highly important, with reference to the question whether he was the first inventor, as well as with regard to whether his invention had been patented or described before his application. Before we can fix the time of its being patentable, we must ascertain when the law deems things sufficiently perfected. As the patent must be for the machine or product, and not for the conception or idea, no patent can be granted until such machine or product is completed so as to be described in a specification, and represented in a model and drawings I have shown that Morse had not, when he filed his caveat in October, 1837, so far completed his machine as to enable him to do either. He then had no completed machine. And there is no evidence in this case of his making any further progress, until it is shown in his application in April, 1838, which is the true date of the invention. Prior thereto he had nothing that was in a condition to be patented. In Reed *vs.* Cutter, 1 Story 590, Judge Story lays down the true rule in these words: "He is the first inventor in the sense of the act, and entitled to a patent for his invention, who has first perfected and adapted the same to use; and until the invention is so perfected and adapted to use, it is not patentable. An imperfect and incomplete invention, resting in mere theory, or in intellectual notion, or in uncertain experiments, and not reduced to practice, and embodied in some distinct machinery, apparatus, manufacture, or composition of matter, is not, and indeed cannot be, patentable under the patent acts." The same doctrine is laid down in Washburn *vs.* Gould, 3 Story R. 133, and in Allen *vs.* Blunt, 2 Wood and Min. 121–141. Morse's invention not being in a condition to be patented before April, 1838, it is perfectly certain that he was preceded by Steinheil and by Wheatstone. The former brought his invention into practical use on a line still existing between Munich and Bogenhausen, in Bavaria, in 1837, where he recorded by ink or pencil, as Morse did afterwards. And Professor Henry distinctly swears that in April, 1837, he saw Wheatstone's apparatus, with the contrivance of bringing into operation a second circuit by means of the first, by the power of electro-magnetism. This places it beyond all doubt that Steinheil and Wheatstone had perfected their inventions before Morse did his. This being so, Morse was not, either in fact or in contemplation of law, the first inventor of what he claims. He was preceded in England and in Bavaria.

Sixth. Where a patent is for a combination of different parts, and not for the parts themselves which compose it, if the patentee did not invent the whole combination, but merely made additions to an old one, his patent is invalid. And where his patent is for a combination of parts, the use of those parts, if less than the whole, is no infringement.

Morse, in his patents themselves, admits that others had preceded him in the invention of telegraphs, whose motive power was electro-magnetism. But he claims that his was the first recording telegraph. From the galvanic battery to the electro-magnet, attracting a bar of iron, turning upon a pivot, or moving on its axis, including wires and the means of opening and closing the circuit, and the electro-magnet itself, which is the all-important and vital thing, Morse has admitted in the historic parts of one of his patents that it existed previously, and it has been proved in this case, that up to that point, the combination was old and in use before his invention. So much of the recording apparatus as consists of weights and clock-work is also proved to be old. Notwithstanding all this, he has claimed the whole of these combinations in his patent of 1840. His second claim is for the "employment of the machinery called the register or recording instrument," most of which is an old combination. In his third claim he says, "I also claim as my invention and improvement the combination of the machinery herein described, consisting of the generator of electricity, the circuit of conductors, the contrivance for breaking and closing the circuit, the electro-magnet, the pen or contrivance for marking, and the machinery for sustaining and moving the paper, all together constituting one apparatus, or telegraphic machine." This is one combined whole. By his own recitals in his patents, and by the undisputed testimony in this cause, this combination, from the generator of electricity to and including the electro-magnet and armature, existed, and was an old combination before Morse's invention. The pen, or the armature and machinery for moving the paper, were his only additions; yet he has claimed the whole, and a too confiding public has been led to believe he invented it. In his fourth claim he says, "I also claim as my invention or improvement, the combination of two or more galvanic or electric circuits, with independent batteries," &c. This combination is proved, by Professor Henry, to have been invented by him years ago, and he saw it in use by Wheatstone, in April, 1837. He has not the merit of making even an addition to it. Claiming a combination which he did not wholly invent, vitiates his patent. So, if he claimed a part which he did not invent. This court, in Evans *vs.* Eaton, 7 Wheaton 356, said, "If his patent includes things before known, or before in use, as his invention, he is not entitled to recover, for his patent is broader than his invention. If therefore the patent be for the whole machine, the party can maintain title to it only by establishing that it is substantially new, in its construction and mode of operation. If the same combination existed before in machines of the same nature, up to a certain point, and the party's invention consists in adding some new machinery, or some improved mode of operation of the old, the patent should be limited to such improvement; for, if it includes the whole machinery, it includes more than his invention, and therefore cannot be supported." Unless this court now overrules this solemn and well-considered adjudication, it must hold this patent invalid for being broader than the invention. The defendants below used no such combination as is included in either of Morse's claims, as the proof clearly shows; and if they did not, they are not liable, even if Morse's patents are good. This point has been repeatedly held by Justices Story and McLean on their circuits. This court, in Prouty *vs.* Ruggles, 16 Peters 336, declared, "The use of any two of these parts only, or of two combined with a third, which is substantially different in form, or manner of its arrangement and connection with the others, it is therefore not the thing patented. It is not the same combination if it substantially differs from it in any of its parts." That the Columbian differs from Morse's invention "in form or manner of its arrangement, and connection with other parts," is too clearly proved to be controverted. Hence Morse cannot recover for a violation of the combinations he has claimed. If he recovers at all, it must be because he is entitled to the exclusive use of magnetism as a motive power, the right to which I shall hereafter discuss.

Seventh. Morse's patents of 1846 and 1848 are void, because he was not the first inventor of the things patented, or of substantial and material parts thereof.

I have already shown that Morse's invention was subsequent to Steinheil's and Wheatstone's. The invention of the former included even the recording of signs, and the latter all that Morse uses, except he made intelligible signs by the electro-magnet attracting or deflecting a needle, instead of actually making a record upon paper. Morse answers these prior inventions, by alleging that he is the first American inventor, and as such, he is entitled to a patent, even if the invention had been previously made and used abroad. We say, that to sustain his patent, he must be the first inventor, as to all the world. In Pennock *vs.* Dialogue, 2 Peters 1, this Court said, "It (the 6th section of the act of 1793) gives the right to the first and true inventor, and to him only; and if known and used before his supposed discovery, he is not the first, although he may be a true inventor." This was in 1829, and in 1833, the case of Shaw *vs.* Cooper, 7 Peters 292, came up, and the same doctrine was reiterated. In this case there had been a use abroad, and this Court said, "If the invention was known or used by the public before it was patented, the patent is void." Judge Washington had held the same in four, and Judge Story in five cases. Judge Baldwin had held, "The invention must be new as to all the world." From 1804 to 1833, the decisions had been uniformly the same. The question now is, did the statute of 1836 change the law? We say it did not. The sixth section of the act of 1836 provides that a person who has made an invention which was "*known* or *used* by *others*, before his" invention, may apply for a patent on making oath, "that he does verily believe that he is the original and *first* inventor." This is the old law, and was actually followed in procuring the patents now under consideration. The seventh provides, that if on examination it "shall not appear to the Commissioner that the same has been invented or discovered by any other person in this country prior to the alleged discovery thereof by the applicant, if he shall deem it sufficiently useful and important, it shall be his duty to issue a patent therefor." The section then provides, if "on such examination it shall appear to the Commissioner that the applicant was not the original and *first* inventor thereof, or that any part of that which is claimed as new has been invented or discovered in this, or a foreign country, as aforesaid," then he is not to issue one, and certain proceedings are to be had before a board. The last clause in this section, being clear and express, must control the first, if there is a conflict between them. This last clause, and the provision in the sixth section, are perfectly harmonious. The fifteenth section provides, if "the patentee was not the original and *first* inventor or discoverer of the thing patented, or a substantial part thereof claimed," &c., "judgment shall be rendered for the defendant with costs." Morse contends that the proviso to this last section, which says that patent shall not be held to be void if he believed he was the first inventor when he applied, modifies and controls this provision. I answer, he has stated no such case in his bill; and if he had, such an issue could not be tried. No one can prove what he believed at that moment. It would be impolitic to give a construction which would involve such an unprovable matter as his belief. The rights of others do not depend upon any such inscrutable facts. Under the old law, a patent could be decreed to be void, and it was then cancelled. The proviso is applicable to such a case. But there is nothing in this act for it to apply to, or operate upon. The Court is no where clothed with power to declare a patent void for any defects appearing upon a trial for its infringement. Its authority is confined to giving the defendant a judgment with costs when he proves certain defenses. It has no power to adjudicate the patent void, and that it be cancelled, or to do any thing else with it. This proviso was inserted in the Senate, after the bill passed the House, as the records show, and has nothing whatever to act upon, and serves no purpose but to confuse this most loose and imperfect law to be found in our statute-book, and one which, for the benefit of inventors and the good of the public, requires much amendment. I have high authority for my conclusions on the present point. Chancellor Kent, in his 2d volume of Commentaries, p. 568, (edition of 1848,) says: "If the patentee be not the first or original inventor, in reference to all the world, he is not entitled to a patent, even though he had no knowledge of the previous use, or previous description of the invention in any printed publication, for the law presumes he may have known it." In 1841, Judge Story, in Reed *vs.* Cutter, 1 Story R. 590, held, "Under the patent laws of the United States, the applicant for a patent must be the *first* as well as the original inventor." "It is sufficient that he is the first inventor to entitle him to a patent; and no subsequent inventor has a right to deprive him of the right to use his own invention. The language of the patent acts of 1836 and 1837, fully establishes this construction; and indeed this has been the habitual, if not invariable, interpretation of all our patent acts since the origin of our Government. The language of the act of 1836, 'not known or used by others, before his or their discovery thereof,' has never been supposed to vary this construction." "In Pennock *vs.* Dialogue, (2 Pet. 1,) the Supreme Court expressly held, that the section of the patent act then in force (and on this point the law has undergone no alteration) gives the right to the true and first inventor, and to him only; if known and used by others before his discovery, he is not the first, though he may be a true inventor, and that is the case to which the clause looks." Judge Woodbury, in 1846, in Allen *vs.* Blunt, 2 W. and M. 121, referring to the superior right of the first inventor, said: "There is no doubt it must prevail, as a matter of historical and chronological truth. It is in truth the first invention." If the law is as insisted by Morse, his oath to obtain his patents should have been, that he was the first inventor in this country, and his patent should have so stated the fact; but both oath and patent, in express words, conform to my construction. His bill should have conformed to his views. But his application, his oath, and his patent, the forms of the Patent Office, the words of the statute, and the adjudications as far as reported, are with me; and good common sense and sound policy are in harmony with them all. If Morse's position is correct, then if Steinheil should come here and use his invention, which was perfected and in actual use before Morse perfected his, he would be subject to a suit for using what his genius and learning produced and gave to the world. Wheatstone would be liable for using his combined circuits in this country, though actually patented by him in 1840, six years before Morse's application to patent them. Such a consequence shows the absurdity of Morse's pretensions. His patent is clearly bad.

In his fifth claim, Morse patents a system of signs. These are not covered by any provision in the patent law. If Morse can monopolize this kind of writing, he must resort to the copyright law. His pretensions that no one can combine dots, lines and spaces without violating his rights, cannot be sustained until he proves that he invented them. But we all know they are old, and it is so proved in this cause. He cannot combine these simple and common elements so as to prevent the rest of mankind making other combinations to meet their wants. This attempt at monopoly is only equalled by his claiming the exclusive use of sounds, without even showing how they can be used at all. For both these causes, this patent is invalid.

Eighth. Morse's reïssued patents, dated June 13, 1848, are invalid, because he has not shown that the surrendered patents were inoperative, or invalid, for defective specification or otherwise, so as to confer jurisdiction on the Commissioner to make such reïssues. The surrendered patents being set out, disprove any such jurisdiction.

Morse has not alleged in his bill, that his patents were "invalid" or "inoperative," nor that the error, if any, was occasioned by "inadvertency," or "mistake," or "accident," or "without fraud or deceptive intent on his part." Nor is it so stated in the reïssued patents. The patents say the surrender was "on account of defective specification." This does not show jurisdiction, while the surrendered patents, which are in the case, cannot be shown in the language of the act to "be inoperative or invalid, by reason of a defective or insufficient description or specification." The jurisdiction does not attach until the old patent is shown to be inoperative or invalid. The jurisdiction being statutory must be clearly made out. It is not pretended by Morse that his old patents were invalid, or inoperative. But he alleges, that the action of the Commissioner is conclusive. Where mere discretion is involved, this is so; but never in cases where the jurisdiction is in controversy. For certain purposes it has been held, that the reïssued patent is unreviewable. This has never been held upon the question of jurisdiction. But in this case the recitals in the patents fall short of making out the semblance of jurisdiction. There is no more reason why the action of the Commissioner cannot be reviewed in this, than in case of the original issue. Certainly this power is equally liable to abuse as the other. I have never known a surrender and reïssue where it was not apparent that the real object was something besides curing defects in the specification. As far as I know, the patentee has uniformly enlarged the boundary of his claims, although there is no stronger reason for it than for permitting the purchaser of a farm to enlarge the limits of his grant.

But I have the authority of this Court itself to sustain me. In Shaw *vs.*

Cooper, 7 Pet. 290, this Court said: "The same evidence which would defeat his application for a patent would at any subsequent period be fatal to his right. The evidence he exhibits to the Department of State is not only *ex-parte*, but interested; and the questions of fact are left open to be controverted, by every one who shall think proper to contest the right under the patent." In Grand *vs.* Raymond, 6 Pet. 218, it said, "If he shows that the patentee has failed in any of these pre-requisites, on which the authority to issue a patent is made to depend, his defence is complete." This case arose on a reïssued patent, and covers ours. The Court add, "The counsel for the plaintiff in error have shown very clearly, that the question of inadvertence or mistake is a judicial question, which cannot be decided by the Secretary of State. Neither can he decide those judicial questions on which the validity of the first patent depends. Yet he issues them without inquiring into them. Why may he not in like manner issue the second patent also?"

The correct performance of all those preliminaries on which the validity of the original patent depends, is always examinable in the court in which a suit for its violation shall be brought. Why may not those points on which the validity of the amended patent depends, be examined before the same tribunal? The rightfulness of issuing the new patent is declared (in the charge) to depend on the fact that the "defect in the specification arose from inadvertence or mistake, and without any fraud or misconduct on the part of the patentee." The jury of course were to inquire into the fact. The new patent was sustained because it stood this test. This case is like the one before us. The reasons assigned will equally apply, and will warrant this Court in reviewing the whole action of the Commissioner. On the question of jurisdiction, this Court has often expressed its opinion. In Walker *vs.* Turner, 9 Wheaton 541, this Court held that where the "jurisdiction is strictly special and limited," it was essential that "the record show that he had acted upon a case the law had submitted to him." In Wilson *vs.* Rosseau, 4 How. 646, this Court, speaking of the decision of the Commissioner in the case of an extension, said, "It is not conclusive upon the question of jurisdiction to act in a particular case." There are numerous cases to this point on the brief. I will only cite Lessee of Hickey *vs.* Stewart, 4 How. 750, where a former decision is approved and this rule established, "that the jurisdiction of any court exercising authority over a subject, may be inquired into, in every other court, when the proceedings are relied on, and brought before the latter by the party claiming the benefit of such proceeding."

These cases settle the question, that we may examine into the Commissioner's jurisdiction. Morse has failed to show the facts that conferred it, or any proof that he possessed it; but on the contrary, the only evidence upon the point in the case shows conclusively, that he had none. Not showing jurisdiction for these reïssues, these patents are invalid.

Ninth. Morse's patent of 1840, as secondly reïssued, is invalid, because the Commissioner had no authority to accept a second surrender and make a second reïssue.

These reïssues are the fountain-head of litigation, as well as the source of innumerable frauds. The presumption is, that the first reïssue cured all defects, if any really existed. There is no authority for a second reïssue, in the statute, which alone confers jurisdiction. Sound policy would prevent all reïssues, but as the statue provides for one, it should be confined to that. It is a well-settled rule of law, that when a special statue power has been exercised, it cannot form the basis of a second exertion of it. This was held in Demming *vs.* Smith, 3 John Chy. R. 332. Delafield *vs.* State of Illinois, 8 Paige, 527, and 26 Wen. 192, proceeded upon the same ground. The 13th Petersdorf, 644, lays down the same rule. Lucas *vs.* Attorney General, 11 Gill and John 490, and in Phalen *vs.* State of Maryland, 12 Gill and John 18, this doctrine was expressly held in Maryland. The changes and expansions that these patents present, must awaken the attention of the Court, as well as the public, to the impolicy, as well as the illegality of these repeated reïssues. If I am right on this point, the patent of 1840, as secondly reissued, is invalid.

Tenth. Morse's patent of 1840, as secondly reïssued, is invalid, because it is broader than the invention originally patented.

The fact that it is broader, is scarcely denied. That it is so, is proved, beyond controversy, by the record. In his reïssued patent, the first claim is for the exclusive use of the power of magnetism, which was not in the original. It was not then patented, nor did he invent it. It was then a claim limited to the application and arrangement of electro-magnets, which was a combination. In his new patent the second claim includes the employment of machinery, called a register, which is made to embrace a "fly" and "spiral spring." In the original, it was for a combination of machinery described, which did not include them. In the new patent, the third claim is for a combination, which constitutes the whole telegraphic apparatus. This includes the "fly" and "spiral spring," and breaking and closing the circuit by metallic contact, by applying the hand. These things were not included in the original. In the old patent, he claimed the "combination of electro-magnets in one or more circuits of conductors with armatures of magnets." In the new, he claims the combination of two or more galvanic circuits, with independent batteries, &c. This is an enlargement. The fifth claim in the new patent is for the invention of a system of signs, consisting of dots and lines. There is no such claim in the original. In the sixth, a system of signs, combined with machinery generally, is claimed; while in the original, it was for their combination with the machinery then described, which was useless. This is an enlargement, because it extends to all machinery, whether described or invented by Morse or not. It was doubtless intended by Morse to cover the machinery of the Columbian and House's Printing Telegraph. It is a palpable enlargement, and includes what Morse did not invent. The seventh includes in the combination the signal lever, or its equivalent, which is not in the original. The eighth claim for the exclusive use of the motive power of the electric or galvanic current, which he calls electro-magnetism, is wholly an addition, and was not invented by Morse. These are only a portion of the enlargements. Morse claims that they were a part of his original invention, and that they were lawfully included, if not in the original at all. We deny that they were a part of his original invention, and there is no proof whatever that they were so. The Commissioner had no such question before him, and no means are provided for its trial if it had been. Having failed to prove it, either before him or in this cause, by a scintilla of evidence, he cannot derive any advantage from it. But we deny that he has a right to enlarge his patent. The thirteenth section of the act of 1836 provides for the "adding the description and specification of any new improvement of the original invention," which shall have been subsequently invented. Most of these enlargements were, as seems palpable, additions subsequently made, and come within the words and spirit of this provision. The new patent, by statute, must be "for the same invention," which was so defectively described as to make the patent invalid, or inoperative. This is the only invention which the section had mentioned. The object is stated to be, to make the defective description a good one, so that it will actually confer rights; but it makes no allusion to the idea that new matter can be introduced, or new claims inserted. The section has no such object. The words "same invention" clearly mean the same that had been patented, though not properly described. If it had been intended to allow new things to be described and claimed, it would have been stated. To give it such a construction now, we must interpolate the words "originally made," where the word "patented" is most clearly implied. When an inventor assigns a patent for a machine, for the residue of his term, it would be unjust, nay unlawful, for the assignee to surrender the old, and take a new patent for things not included in it. The inventor may have intended to reserve the things not described, or claimed for his own use in another patent or otherwise. By assigning the old patent he confers no right to any thing not claimed and attempted to be described. Suppose an inventor assigns his application, and the patent is issued to his grantee. He conveys only what he claims and specifies. If he invented more, it remains his. What right has the grantee to what is not mentioned in the contract of sale? He did not purchase it. His contract or assignment should be interpreted, like all others, by the intention of parties to it, as expressed in the writing. No greater error can be committed than to apply rules in relation to patents, and things connected with them, which are not applicable to other and common transactions. Without giving a forced and unnatural construction to the words "same invention," this Court cannot hold that new claims and descriptions can be included in a reïssued patent. If properly construed, then these new claims and newly described things have been wrongfully inserted, and the patent is bad.

Eleventh. Morse's patent of 1846 is void, because material parts of it were in public use, and had been patented and described in a printed publication, before his application.

The first claim in it is for the invention of connecting circuits, so that one brings another into use. This was invented by Professor Henry, and used by him, as he swears, years before Morse claims to have made the invention. He also swears, that he saw it in use by Wheatstone, in April, 1837. It was patented by Wheatstone in 1837, and appears in Davy's, in England, in 1838, and is also described in the London *Mechanic's Magazine* in 1838, and by Vail (one of the plaintiffs) in his book published in 1845. Morse himself had patented it in 1848, in the second reïssue of his patent of 1840. It is there in these words: "I claim as my invention the combination of two or more galvanic or electric circuits, with independent batteries, substantially by the means herein described, for the purpose of obviating the diminished force of electro-magnetism in long circuits, and enabling me to command sufficient power to put in motion registering or recording machinery at a distance."

In the patent of 1846 it is, "the employment in a main telegraphic circuit, of a device or contrivance, called the receiving magnet, in combination with a short local independent circuit, or circuits, each having a register and register magnet, or other magnetic contrivances, for registering and sustaining such a relation to the register magnet or other magnetic contrivances for registering, and to the length of the circuit of telegraph line, as will enable me to obtain, with the aid of the main galvanic battery and circuit, and the intervention of a local battery and circuit, such motive power for registering as could not be obtained otherwise, without the use of a much larger galvanic battery, if at all." This long and foggy sentence covers a contrivance for connecting circuits and obtaining more power, which is the same thing claimed in the patent of 1840. By referring to the two specifications, they describe the same things, as far as described at all. Thorough examination will show that they use the same means and have the same description, and are employed for the same purpose. The registering and receiving magnets are simply Henry's electro-magnet. Although it is pretended that the former has stops and a spiral spring for adjustment, still these things are not described by Morse, nor do they form a part of the receiving magnet, nor do they constitute a patentable invention. But if they were described, they actually appear in figure two, example eleven, of the second reïssue of his patent of 1840, now in the hands of the Court, and therefore could not have been covered by another patent. If the old patent does not include his first claim in the new, then it is perfectly certain that he did not invent it until many years after Henry did, and after Wheatstone and Davy described it in their patents, and used it publicly in England, and until after it had been described in a printed publication in London. It has been alleged that the contrivance in the patent of 1849, as secondly reïssued, would not transmit the galvanic current both ways, by the use of a single wire. It would not, nor can the present contrivances do so. At first, Morse did not know the ground could be used as a part of the circuit, and hence a return-wire was needed and employed by him. But when he adopted this part of Steinheil's invention, the ground took the place of the second wire. But even now, the current cannot be transmitted both ways on the same wire without changing the poles of the batteries. The current always goes in one direction. If Baltimore wishes to send to Washington, the current leaves one pole of the battery, proceeds to Washington, and comes back to the other pole of the battery—going in one direction through the wire, and in the other in the ground. If Washington sends to Baltimore, the current leaves the like pole of the Washington battery, proceeds to Baltimore, and comes back to the other battery at the place of starting. It is the same in communicating on to Philadelphia and New-York. The pretence that there has been a change in this respect is all delusive. The only alteration by Morse, was the adoption of Steinheil's discovery of using the earth as a part of the circuit, without the grace of acknowledgment. But even this he does not describe and claim. This patent is invalid because of this long prior discovery, prior published description, and prior patenting, and prior use of the thing claimed.

Twelfth. Morse's reïssued patent of 1846 is invalid, because it is broader than the original.

This is the same question as the tenth proposition, being applied however to Morse's last patent. I shall, therefore, merely show the fact that it is broader. Morse, in his first claim in this patent, claims the employment of a receiving magnet, or its equivalent, in *combination* with a short, local, independent circuit, having a register magnet, for the purpose of obtaining more power. There is no such claim in the original. He there claimed the invention of the receiving magnet or one of similar character, sustaining certain relations to enable him to obtain power, without mentioning a short, local, independent circuit, or the present combination. He now claims two short local circuits in a new combination, which is a material enlargement of his pretensions. His third claim is enlarged by claiming indentations upon paper, and other fabrics, instead of using coloring matter. His historical recital, though not an enlargement of his claim, is an attempt at self-glorification, at the expense of prior inventors. If I am right, in relation to these enlargements, this patent is a legal nullity.

Thirteenth. The power to surrender and reïssue on account of *defective* specifications did not authorize Morse to make new specifications; and, having made *new* ones, his patents are bad.

This case illustrates the danger of allowing a patentee, under pretence of correcting and amending a defective specification, to make a new one. There was really no such defect as stated, and none can or will be pointed out in these old patents. The language has been changed so that the thing first patented cannot be followed, as the court will learn by trying to do so in the new ones. Instead of correcting a void thing, so as to make it valid, as is pretended in the statement in these patents, new inventions and enlarged claims are ingeniously introduced. The surrender was not made, nor the reïssue claimed or granted under a pretence of describing omitted things, or of enlarging the claims so as to include the whole invention, but to amend a defective specification. Under this pretense, in fraud of the law, a new specification is written out, and things not invented by him are introduced, and claims made to cover known inventions of others. Neither then nor now can Morse name one thing that was not sufficiently described before. The act speaks of the new patent being issued in "accordance with the patentee's corrected description and specification." In these cases, instead of a corrected, we have a new description and new claims. We ask this court to find, if it can, wherein these patents were inoperative or invalid by reason of a defective specification; and then to find wherein a correction is made which was necessary to secure their validity. Unless the words new and corrected are synonyms, this cannot be done. This is a fit occasion for this court to check this growing evil, by expressing its disapprobation of a pernicious practice, which in this case carries on its face the impress of fraud. For this cause, these patents should be held bad.

Fourteenth. The first and eighth claims of the patent of 1840, as secondly reïssued, are for a principle or effect, and not for a machine, manufacture, or composition of matter, or an improvement upon either, and it is therefore invalid.

This is the most important question raised in this cause. Its decision will determine whether our patent laws really promote the progress of the useful arts, or hold them stationary for periods of fourteen years; whether the principles of nature, not invented by man, can be monopolized by one to the exclusion of all others; and whether a patent can confer upon a patentee the exclusive right to use what he did not invent, and to make an inventor respond in damages for using his own invention. If this can be done under our present laws, they should be promptly changed, or expunged from the statute-book. Inventors cannot prosper under such a construction. They must be allowed the free use of what God has created, to mould and fashion it for man's use, or their energies will cramp and wither, and their faculties rust, without benefiting mankind, or aiding, as they have done, in the great work of the world's improvement. What the honest inventor desires, and is essential to his success, is protection of what he invents, and simple and effectual remedies for invasions, with prompt trials. The laws, in my opinion, should be so amended as to confine contests to questions of infringement and damages only. With our present loose laws and monstrosity trials, and unnatural and strange claims, under the law, if this claim to monopolize the principles of nature succeeds, the poor inventor can expect but little from his exertions to benefit himself or mankind. His inventions, and his chance of profits and hopes of honor, may be swallowed up by the prior monopolizer of nature's principles.

In his first claim he patents the exclusive use of the motive power of magnetism, and in the eighth that of electro-magnetism. I shall treat them as one, though they are essentially different. This was not claimed in his first patent. The dangers of competition were increasing. The fraud-path of a reïssue, with a skilfully-formed new specification, is resorted to. Knowing the kind wishes of the American people were with him, he was willing to run the hazard of patenting the exclusive use of the galvanic power through the electro-magnet. He now asks this court to sustain him in this fraud upon the law, and this bold intrusion upon the common property of man. He doubtless had heard that some English cases had held, that he who discovers a new principle, and has invented a mode of applying it, is entitled to its monopoly. This rule would serve his purposes, and the changes in his patent were made, and O'Rielly forthwith sued for using what was lawfully used the day before the reïssue. But he mistook the English rule. The English courts have never held, as I understand the decisions, that a power provided by the Ruler of the universe can be patented to or monopolized by any man. They have held that when an inventor has combined and arranged material things, whether powers, machinery, or other things, so as to produce something new and useful, the principle of action, or by which the effect is produced, is an invention and patentable; but not the simple elements or powers used. The English cases do not refer to a principle of nature, but to the principle of the artificial being or thing invented and patented—its mechanical, chemical, or other principles. Our adversaries do not cite one case which goes to the extent of patenting a principle of nature. Judge Kane's opinion upon Morse's patents has been cited. He held that Morse's patent of 1840 was for an art, not for a principle of nature, and that Morse had under it the exclusive right to such art for fourteen years. He held Bain's patent was for the same art, and therefore void. The case before him was one on Morse's patents of 1840, 1846, and 1849. It was claimed by Morse that Bain's was identical with his of 1849. Being identical with it, if Bain's was void, as covering the art patented by Morse in 1849, then Morse's must have been void also, because Morse could not re-patent his pretended art more than Bain. But Judge Kane held otherwise. He held Morse's patents of 1846 and 1849 to be valid, though they were for the same art he declared to be covered by the patent of 1840, and held Bain's to be void because Morse's last-mentioned covered the whole ground. This decision is a perfect *felo de se.* The identical principle which he applied to Bain's patent to kill it, if applied to Morse's two latest patents, would kill them also.

The case of *Battin* vs. *Taggart* was decided the same term at which that of *French* vs. *Rogers* was argued. If Judge Kane had applied in the latter case the same rule which I have before quoted from his decision in the former, Morse's reïssued patents must have been declared void.

He was equally unfortunate in his investigation of the facts. Morse's patent of 1846 does not show that the line can be worked both ways, nor that he patented and described an adjustable receiving magnet, nor does the record sustain the allegation that Steinheil's and Davy's inventions were mere semaphores, speaking to the eye. Both were recording telegraphs. Other errors could be enumerated. Having these things in mind, I cannot look upon the case as one of authority. Judge Kane went so far beyond the English cases as to stand alone. Our statute and the English are not identical. The English courts interpret their statutes, and our courts our own. But if our courts were to follow the English, they could not save this patent, because it is the principles of the machine, or the invention, and not those of nature, that they hold to be patentable.

But if we admit that he who discovers a principle, and shows a mode of using it, can have a valid patent to cover the whole principle, it does not help Morse in this case. In the first and eighth claims he covers the use of the motive power of electro-magnetism; but he did not discover that power at all. It was discovered and used before he attempted to contrive a telegraph. This is proved and also admitted by his vain recitals in his patents. He did not first discover the power, nor is there a pretence of it in the case. The proof is all the other way. He merely applied it, by attaching his recording apparatus. Hence this patent cannot be sustained on the ground that he first discovered the motive power of electro-magnetism. If there is nothing else to sustain it, the patent must fall. This claim is broader than his invention, and therefore bad.

It is next alleged that a recording telegraph is an art, and that Morse invented that art, and that he is entitled to a monopoly of it. This position is an abandonment of the other. But, unfortunately for those who urge it, this is not the thing patented. The first and eighth claims simply cover the use of a specified motive power. If these fail, the patent is bad. They vitiate it entirely. The other claims nowhere refer to this pretended art, and it is not set out in the specification. It does not find a resting-place in the patent at all. It only appears in my learned adversary's brief. The other side cannot point it out, and your Honors cannot find it in the patents. They will find only claims to dots, lines, types, combinations and machinery, &c., but no reference to the art, which, if it exists at all, must have been invented since the last reïssue. The next reïssue may include it, if the old expanding and grasping practice prevails.

Morse has an undisputed right to claim certain machinery, but he has embraced what he did not invent, which destroys the whole patent, as I have shown. But if we admit that Morse has claimed an art, has he invented one? Certainly not. "Art is the disposition or modification of things by human skill to answer the purpose intended." "Also a system of rules serving to facilitate the performance of certain actions." Has Morse, in this sense, invented an art; and if so, what art? The art of creating the galvanic current—the art of sending it from one pole of a battery, through a circuit, to the other—the art of making an electro-magnet—the art of attracting a needle or iron bar, or armature, by the electro-magnet, so as to create motion —that is, the motive power of electro-magnetism to indicate telegraphic signs—were all known and used before Morse's invention. The art of telegraphing includes things which he did not invent. All that he invented was indenting or marking these signs upon paper. This he did, having the aid of all the previous arts which I have enumerated. And in respect to recording, he was preceded by Steinheil. He cannot rightfully claim the art of telegraphing, because he only invented the manner of manifesting the messages, and not that of sending them. The whole means used for transmission were invented and used before his discovery. Hence the art of telegraphing is not his invention, and is not patented. The art of receiving the pulsations of the current in the electro-magnet was known and used before his invention. The attraction of the iron armature to the electro-magnet was not his invention. Henry and others had done this. The former attracted over three thousand pounds weight with an electro-magnet. The art of moving clockwork by weights was not new. Waiving Steinheil's older invention of marking by electro-magnetism, Morse did not wholly invent a mode of marking on paper by the motion of the armature, moved by the attractive power of the electro-magnet, because others had invented most of the elements and combinations used. The mode of combining circuits was invented by Henry and by Wheatstone before him. His only claim to the invention of the art of telegraphing is limited to a mode of marking, in which he was preceded by the learned Bavarian. If so shaping and suspending the armature as to cause it to rub against or strike upon moving paper constitutes on art, then Morse invented one; but not the art of telegraphing, because that includes more. If Morse has invented an art, it is not the one so vauntingly claimed, which includes numerous arts, or inventions, besides that of recording, which were perfected to his hands. The art of printing is referred to. Did any one man invent it? It is literally composed of more than a hundred inventions. Neither the paper-maker, ink-maker, type-maker, ball or roller-maker, nor press-maker, with the numerous inventions applicable to each, invented the art of printing. Even Hoe, with his wonderful press, cannot make claim to the art of printing. It is the aggregated labor of numerous inventors. So of the art of navigation, the art of making iron and steel, cutlery, watches, &c. It is equally true of telegraphing.

But if Morse had invented the art of telegraphing, his claims should be confined to his mode of doing it, and cannot extend to all modes, because he did not invent all modes. By law, he is bound to disclose all modes known to him, and a wrongful concealment would vitiate the patent. He gives one mode, and the presumption is, that he knew no other. His invention, it is well settled, can be no broader than his discovery, and hence can only cover his own mode. The English cases cited cannot apply, because there is no new principle involved. Electro-magnets had attracted armatures before—

weights had before moved clock-work to produce steady motion. Pens and pencils had previously marked, and dots, lines and spaces had before been used to signify ideas. Galvanic batteries had generated currents, and wires had conducted them. Circuits had been broken and closed by metallic contact. There is no reasonable pretence that any new power or principle was involved in what Morse invented. In truth, he has neither discovered a new principle in science or mechanics, nor invented the art of telegraphing, and was not the first inventor of a recording apparatus.

The American authorities repudiate the idea that any thing can be patented but the means invented to produce a result. In Wyeth *vs.* Stone, 1 Story R. 285, Story J. says, in relation to an invention for cutting ice, "The invention of this art, as well as the particular method of the application of the principle, are claimed by Wyeth. It is plain, that here, the patentee claims the exclusive art of cutting ice by means of any power other than human power. Such a claim is utterly unmaintainable in point of law." In Whittemore *vs.* Cutter, 1 Gal. 478, he said, "A patent in no case can be for an effect only, but for an effect produced in a given manner." In Stone *vs.* Sprague, 1 Story R. 270, he said, "We are of opinion that if the patent be construed to include all modes of communicating motion from the reel to the yarn-beam, and of the connection of the one with the other generally, it is utterly void, as being an attempt to maintain a patent for an abstract principle, or for all possible modes whatsoever of communication, although they may be invented by others and substantially differ from the mode described by the plaintiff in his specification. A man might just as well claim title to all possible or practicable modes of communicating motion from the steam-engine to a steamboat, although he had invented but one mode." The English cases of Burnton *vs.* Hawks, 4 Barn. and Ald. 541; Hill *vs.* Thompson, 8 Taunton 375; Boulton and Watt *vs.* Bell, 2 Hen. Bl. 487, and Losk *vs.* Hague, Webster, P. C. 207, are to the same effect. In the latter case, Heath J. says, "What he (the patentee) cannot specify, he has not invented." "This patent extends to all machinery that may be made upon this principle, so that he has taken a patent for more than he has specified." Buller J. says, "A patent must be for some new production from those elements, and not for the elements themselves."

When Morse's patents were before Judge Woodbury in Smith *vs.* Downing, this question was elaborately discussed and most fully considered. My brief gives the material portions of the opinion. The court then held that neither a principle, effect, nor an art could be patented. The Judge said, a patentee "can be protected only in the mode and to the extent described." Referring to English judges, he says, "Where any judge speaks of patenting an art, it is not the art in the abstract, without a specification of the manner in which it is to operate, as a manufacture or otherwise. But it is the art thus explained in the specification, and illustrated by a machine, or model, or drawings, when of a character to be. It is the art as represented, or exemplified, like the principle thus embodied, which, alone, the patent laws were designed to protect. In the English acts, the word 'art' is not used at all. And in ours, as well as in our Constitution, the word art means a useful art, or a manufacture which is beneficial, and which by the same law is required to be described with exactness in its mode of operation, and which, of course, for the reasons already laid down, can be protected only in the mode and to the extent thus described." The reasons given in this learned opinion were so strong that no appeal has been taken to this court from the decision. Judge Kane, in the Philadelphia case on these Morse patents, declared a contrary opinion, without doing himself or Judge Woodbury the justice to refer to the case at all, though cited by me. Judge Woodbury's argument was not then and cannot now be met and answered. It is true the learned judge construed Morse's patent to be simply for the mode which he described, and that it was not therefore for an art, or the monopoly of a principle, as is here contended. Holding it to be limited to the simple mode which I have stated, as all he invented, and for nothing else, he did not declare Morse's patent invalid, but held House's invention was no interference, because the mode was different. The patent of 1840, as now presented, has a claim for printing "signs *or* letters." In the one before him, it was "signs *of* letters." As this claim is an interpolation upon the original, and covers marking or printing letters, and there being not even the pretence of description for producing them, this patent must be invalid on that account. Had it appeared in this form before Judge Woodbury, he, doubtless, would have held the same way. The principal reason usually assigned for sustaining these patents, so full of legal faults, is that the patentee has benefited mankind by what he has done, and ought to be rewarded. If the evidence did not show that benefit to himself was the ruling passion, I might answer, that thousands benefit mankind by their inventions and discoveries, where no law confers on them a pecuniary reward. Did Franklin patent his discoveries, or Lieut. Maury his? Professor Henry, who invented the heart, the very soul of Morse's telegraph, has neither asked nor received a pecuniary reward, while Morse uses it as freely as he does his own, which would be utterly useless without it. My great objection to Morse's patents is, that he attempts to monopolize one of nature's elements long known and used. He seeks to withdraw it from common use, not because he first discovered it, but because he has used it in a particular way. He tells the inventive world to beware! this power is mine; I have secured it in my reïssued patents, and you use it at your peril. Suits at law ,suits in chancery, injunctions and ruinous litigations are threatened against those who dare now to use a power which others used long years ago. If the record shall be made by the action of galvanism upon paper saturated with certain salts, where no motive power is used at all, Morse claims that it violates his monopoly, and Judge Kane sustained him in the claim. In the present case, the use of the power of permanent magnetism is alleged to be an invasion of his patent, and the judge below sustains this extravagant proposition. Morse's pretensions are not limited in practice to the use of the motive power of electro-magnetism to mark; but if used for any purpose whatever, however remote from his manner—if a mark is made, even by one who invented the mode—the cry of infringement is heard, and the grapples of the law fastened upon him. Let a new invention appear, a surrender and reïssue enables Morse to include it. The inventions of Barnes and Zook, involved in this case, of Bain's in the Philadelphia case, and of House's in the one at Boston, were all sought to be brought within Morse's expansive and growing patents by the legerdemain of reïssues. House was prosecuted for using his own improvements, which Morse never invented. Rogers, assignee of Bain, was enjoined from using Bain's improvement, of which he was the first inventor. Numerous other suits are pending, which renders the decision in this case doubly important.

It is error to suppose that Morse has been personally involved in, or incurred heavy expenses for litigation. In this case he shares it with his co-plaintiffs. In all the other cases, so far from his being a party, or involved in expenses, others are plaintiffs, and he has uniformly appeared as their witness. Your Honors are now called upon to determine whether Morse can rightfully prosecute others for using what he did not invent—for using their own inventions or those of third persons. If Morse has the exclusive right to the motive power of electro-magnetism, as he claims, it follows that if I make an invention a hundred times superior to his, he can lawfully use my invention, and punish me if I use the fruits of my own genius and toil. He can recover for what he did not invent or even describe in his patents, and prevent American citizens using what they or others found out and he did not. It would hardly be safe for Henry to use his electro-magnet if a record resulted from it. In his first patent of 1846, Morse actually claimed it by name. Steinheil and Davy, if not Wheatstone, might be punished if they should here use their own prior inventions. The chemist and electrician must abandon their laboratories, if telegraphs occupy their thoughts, and the arts and sciences must come to a halt for fourteen years, or the proprietors of this undescribed and indescribable and boundless monopoly may open the batteries of the law upon them and demolish their hopes of fame and reward.

Most owners of property can describe their boundaries, but Morse's claim is too broad for description. It covers the productions of all mankind. It might well be called a patent to restrain invention and punish inventors and those patronizing them. To sustain it would be a most fatal blow to the inventive genius and energies of the country, and would defeat the policy of our Constitution and laws, and render them worse than useless.

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